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Addresses

UNITY, PEACE AND CONCORD.

A FAREWELL ADDRESS TO THE MEDICAL PROFESSION OF THE UNITED STATES.*

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On this occasion I have had no difficulty in selecting a subject on which to address you. Surely the hour is not for the head but for the heart, out of the abundance of which I may be able to express, however feebly, my gratitude for the many kindnesses I have received from the profession of this country during the past twenty-one years, and from you, my dear colleagues of this state and city, during the sixteen years I have dwelt among you. Truly I can say that I have lived my life in our beloved profession—perhaps too much! but whatever success I have had has come directly through it, and my devotion is only natural. Few men have had more from their colleagues than has fallen to my lot. As an untried young man my appointment at McGill College came directly through friends in the faculty who had confidence in me as a student. In the ten happy years I lived in Montreal I saw few but physicians and students, among whom I was satisfied to work—and to play. In Philadelphia the hospitals and the societies absorbed the greater part of my time, and I lived the peaceful life of a student with students. An ever-widening circle of friends in the profession brought me into closer contact with the public, but I have never departed from my ambition to be first of all a servant of my brethren, willing and anxious to do anything in my power to help them. Of my life here you all know I have studied to be quiet and to do my own business and to walk honestly toward them that are without, and one of my chief pleasures has been to work among you as a friend, sharing actively in your manifold labors. But when to the sessions of sweet, silent thought I summon up the past, not what I have done, but the many things I have left undone, the opportunities I have neglected, the battles I have shirked, the precious hours I have wasted—these rise up in judgment.

A notable period it has been in our history through which we have lived, a period of reconstruction and renovation, a true renaissance, not only an extraordinary revival of learning, but a complete transformation in our educational methods; and I take pride in the thought that, in Philadelphia and in Baltimore, I have had the good fortune to be closely associated with men who have been zealous in the promotion of great reforms, the full value of which we are too close to the events to appreciate. On the far-reaching influence of these changes time will not permit us to dwell. I propose to consider another aspect of our work of equal importance, neither scientific nor educational, but what may be called humanistic, as it deals with our mutual relations and with the public.

Nothing in life is more glaring than the contrast between possibilities and actualities, between the ideal and the real. By the ordinary mortal, idealists are regarded as vague dreamers, striving after the impossible, but in the history of the world how often have they gradually molded to their will conditions the most adverse and hopeless! They alone furnish the *Geist* that finally animates the entire body and makes possible reforms and even resolutions. Imponderable, impalpable, more often part of the moral than of the intellectual equipment, are the subtle qualities so hard to define, yet so potent in every-day life by which these fervent souls keep alive in us the reality of the ideal. Even in a lost cause with aspirations utterly futile, they refuse to acknowledge defeat and, still nursing an unconquerable hope, send up the prayer of faith in face of a scoffing world. Most characteristic of aspirations of this class is the petition of the Litany in which we pray that to the nations may be given "unity, peace, and concord." Century after century from the altars of Christendom this most beautiful of all prayers has risen from lips of men and women, from the loyal souls who have refused to recognize its hopelessness, with the war-drums ever sounding in their ears. The desire for unity, the wish for peace, the longing for concord, deeply implanted in the human heart, have stirred the most powerful emotions of the race, and have been responsible for some of its noblest actions. It is but a sentiment, you may say, but is not the world ruled by feeling and by passion? What but a strong sentiment baptized this nation in blood, and what but sentiment, the deep-rooted affection for country which is so firmly implanted in the hearts of all Americans, gives to these states to-day unity, peace, and concord? As with the nations at large, so with the nation in particular, as with people so with individuals, and as with our profession so with its members, this fine old prayer for unity, peace and concord, if in our hearts as well as on our lips, may help us to realize its aspirations. What some of its lessons may be to us will be the subject of my address.

UNITY.

Medicine is the only world-wide profession, following everywhere the same methods, actuated by the same ambitions and pursuing the same ends. This homogeneity, its most characteristic feature, is not shared by the law,

* Delivered at the annual meeting of the Medical and Chirurgical Faculty of Maryland, Baltimore, April 26, 1905.

and not by the church, certainly not in the same degree. While in antiquity the law rivals medicine, there is not in it that extraordinary solidarity which makes the physician at home in any country, in any place where two or three sons of men are gathered together. Similar in its high aims and in the devotion of its officers, the Christian Church, widespread as it is, and saturated with the humanitarian instincts of its Founder, yet lacks that catholicity—*urbi et orbi*—which enables the physician to practice the same art amid the same surroundings in every country of the earth. There is a unity, too, in its aims—the prevention of diseases by discovering their causes, and the cure and relief of sickness and suffering. In a little more than a century a united profession working in many lands has done more for the race than has ever before been accomplished by any other body of men. So great have been these gifts that we have almost lost our appreciation of them. Vaccination, sanitation, anesthesia, antiseptic surgery, the new science of bacteriology, and the new art in therapeutics have effected a revolution in our civilization to which only can be compared the extraordinary progress in the mechanical arts. Over the latter there is this supreme advantage, it is domestic—a bedroom revolution, which sooner or later touches each one of us, if not in person, in those near and dear—a revolution which for the first time in the history of poor, suffering humanity brings us appreciably closer to that promised day when the former things should pass away, when there should be no more unnecessary death, when sorrow and crying should be no more, and there should not be any more pain.

One often hears as a reproach that more has been done in the prevention than in the cure of disease. It is true, but this second part of our labors has also made enormous progress. We recognize to-day the limitations of the art, we know better the diseases curable by medicine, and those which yield to exercise and fresh air; we have learned to realize the intricacy of the processes of disease and have refused to deceive ourselves with half knowledge, preferring to wait for the day instead of groping blindly in the dark or losing our way in the twilight. The list of diseases which we can positively cure is an ever-increasing one, the number of diseases the course of which we can modify favorably is a growing one, the number of incurable diseases (which is large and which will probably always be large) is diminishing—so that in this second point we may feel that not only is the work already done of the greatest importance, but that we are on the right path, and year by year as we know disease better we shall be able to treat it more successfully. The united efforts of countless workers in many lands have won these greatest victories of science. Only by ceaseless co-operation and the intelligent appreciation by all of the results obtained in each department has the present remarkable position been reached. Within a week or ten days a great discovery in any part of the world is known everywhere, and, while in a certain sense we speak of German, French, English and American medicine, the differences are trifling in comparison with the general similarity. The special workers know each other and are familiar with each other's studies in a way that is truly remarkable. And the knowledge gained by the one, or the special technic he may devise, or the instrument he may invent is at the immediate disposal of all. A new life-saving operation of the first class devised by a surgeon in Breslau would be performed here the following week. A discovery in practical medicine is common property with the next issue of the weekly journals.

A powerful stimulus in promoting this wide organic unity is our great international gatherings, not so much the International Congress of the profession, which has proved rather an unwieldy body, but of the special societies which are rapidly denationalizing science. In nearly every civilized country medical men have united in great associations which look after their interests and promote scientific work. It should be a source of special pride to American physicians to feel that the national association of this country—the American Medical Association—has become one of the largest and most influential bodies of the kind in the world. We can not be too grateful to men who have controlled its course during the past ten years. The reorganization so efficiently carried out has necessitated a readjustment of the machinery of the state societies, and it is satisfactory to know that this meeting of our state society, the first held under the new conditions, has proved so satisfactory. But in the whole scheme of readjustment nothing commands our sympathy and co-operation more than the making of the country societies, the materials out of which the state and national associations are built. It is not easy at first to work out such a scheme in full detail, and I would ask of the members of this body not only their co-operation, but an expectant consideration, if the plan at first does not work as smoothly as could be desired. On the county members I would urge the support of a plan conceived on broad national lines—on you its success depends, and on you its benefits will chiefly come.

Linked together by the strong bonds of community of interests, the profession of medicine forms a remarkable world-unit, in the progressive evolution of which there is a fuller hope for humanity than in any other direction.

Concentration, fusion and consolidation are welding together various subunits in each nation. Much has been done, much remains to do, and to three desiderata I may refer briefly.

In this country reciprocity between the state licensing boards remains one of the most urgent local needs. Given similar requirements, and examinations practically of the same character, with evidence of good character, the state board should be given power to register a man on payment of the usual fee. It is preposterous to restrict in his own country, as is now done, a physician's liberty. Take a case in point: A few months ago a man who is registered in three states, an able, capable practitioner of twenty years' standing, a hard student in his profession, a physician who has had charge of some of the most important lives of this country, had to undergo another examination for license. What an anomaly! What a reflection on an united profession! I would urge you all most strongly to support the movement now in progress to place reciprocity on a proper basis. International reciprocity is another question of equal importance, but surrounded with greater difficulties and, though a long way off, it will come within this century.

The second urgent need is a consolidation of many of our medical schools. Within the past twenty-five years conditions have so changed that the tax on the men in charge of the unendowed schools has become ever more burdensome. In the old days of a faculty with seven professors, a school with 300 students was a good property, paying large salaries, but the introduc-

tion of laboratory and practical teaching has so increased the expenses that very little is now left for distribution at the end of the year. The students' fees have not increased proportionately, and only the self-sacrifice and devotion of men who ungrudgingly give their time, and often their means, save a hopeless situation. A fusion of the schools is the natural solution of the problem. Take a concrete example: A union of three of the medical schools of this city would enable the scientific departments to be consolidated at an enormous saving of expense and with a corresponding increase in efficiency. Anatomy, physiology, pathology, physiologic chemistry, bacteriology and pharmacology could be taught in separately organized departments which the funds of the united school could support liberally. Such a school could appeal to the public for aid to build and endow suitable laboratories. The clinical work could be carried on at the separate hospitals, which would afford unequaled facilities for the scientific study of disease. Not only in this city, but in Richmond, in Nashville, in Columbus, in Indianapolis and in many cities a "merger" is needed. Even the larger schools of the larger cities could "pool" their scientific interests to the great advantage of the profession.

And the third desideratum is the recognition of our homeopathic brethren that the door is open. It is too late in this day of scientific medicine to prattle of such antique nonsense as is indicated in the "pathies." We have long got past the stage when any "system" can satisfy a rational practitioner, long past the time when a difference of belief in the action of drugs—the most uncertain element in our art!—should be allowed to separate men with the same noble traditions, the same hopes, the same aims and ambitions. It is not as if our homeopathic brothers are asleep—far from it—they are awake—many of them at any rate—to the importance of the scientific study of disease, and all of them must realize the anomaly of their position. It is distressing to think that so many good men live isolated, in a measure, from the great body of the profession. The original grevious mistake was ours—to quarrel with our brothers over infinitesimals was a most unwise and stupid thing to do. That we quarrel with them now is solely on account of the old Shibboleth under which they practice. Homeopathy is as inconsistent with the new medicine as is the old-fashioned polypharmacy, to the death destruction of which it contributed so much. The rent in the robe of Æsculapius, wider in this country than elsewhere, could be repaired by mutual concessions—on the one hand by the abandonment of special designations, and, on the other, by an intelligent toleration of therapeutic vagaries which in all ages have beset the profession, but which have been mere flies on the wheels of progress.

PEACE.

Many seek peace, few pursue it actively, and among these few we, alas! are not often to be found. In one sense every one of us may be asked the question which Jehu returned to Joram: "What hast thou to do with peace?" since our life must be a perpetual warfare, dominated by the fighting spirit. The physician, like the Christian, has three great foes—ignorance, which is sin; apathy, which is the world, and vice, which is the devil. There is a delightful Arabian proverb, two lines of which run: "He that knows not and knows not that he knows not is a fool—shun him. He that knows not and knows that he knows not is a simple—teach him." To a large extent these two classes represent the people with whom we have to deal. Teaching the simple and suffering the fools gladly, we must fight the wilful ignorance of the one and the helpless ignorance of the other, not with the sword of righteous indignation, but with the skillful weapon of the tongue. On this ignorance the charlatan and the quack live, and it is by no means an easy matter to decide how best to conduct a warfare against these wily foes, the oldest and most formidable with whom we have to deal. As the incomparable Fuller remarks: "Well did the poets feign Æsculapius and Circe, brother and sister, . . . for in all times (in the opinion of the multitude) witches, old women and imposters have had a competition with doctors." Education of the public of a much more systematic and active kind is needed. The congress on quackery, which is announced to take place in Paris, with some twenty-five subjects for discussion, indicates one important method of dealing with the problem. The remarkable exhibit held last year in Germany of everything relating to quacks and charlatans did an immense good in calling attention to the colossal nature of the evil. A permanent museum of this sort might well be organized in Washington in connection with the Department of Hygiene. It might be worth while to imitate our German brethren in a special national exhibit, though I daresay many of the most notorious sinners would apply for large space, not willing to miss the opportunity for a free advertisement! One effective measure is enforced in Germany. Any proprietary medicine sold to the public must be submitted to a government analyst, who prepares a statement (as to its composition, the price of its ingredients, etc.), which is published at the cost of the owner of the supposed remedy in a certain number of the daily and weekly papers.

By far the most dangerous foe we have to fight is apathy—indifference from whatever cause, not from a lack of knowledge, but from carelessness, from absorption in other pursuits, from a contempt bred of self-satisfaction. Fully 25 per cent. of the deaths in the community are due to this accursed apathy, fostering a human inefficiency, and which goes far to counterbalance the extraordinary achievements of the past century. Why should we take pride in the wonderful railway system with which enterprise and energy have traversed the land when the supreme law, the public health, is neglected? What comfort in the thought of a people enjoying great material prosperity when we know that the primary elements of life (on which even the old Romans were our masters) are denied to them. What consolation does the "little red school house" afford when we know that a Lethean apathy allows toll to be taken of every class from the little tots to the youths and maidens? Western civilization has been born of knowledge, of knowledge won by hard, honest sweat of body and brain, but in many of the most important relations of life we have failed to make that knowledge effective. And strange irony of life, the lesson of human efficiency is being taught us by one of the little nations of the earth, which has so far bettered our instruction that we must again turn eastward for wisdom. Perhaps in a few years our civilization may be put on trial, and it will not be without benefit if it arouses the individual from apathy and makes him conscious of the great truth that only by earnest individual human effort can knowledge be made effective, if it arouses communities from an apathy which permits medieval conditions to prevail without a protest.

Against our third great foe, vice in all its forms, we

have to wage an incessant warfare, which is not less vigorous because of the quiet, silent kind. Better than any one else the physician can say the word in season to the immoral, to the intemperate, to the uncharitable in word and deed. Personal impurity is the evil against which we can do most good, particularly to the young, by showing the possibility of the pure life and the dangers of immorality. Had I time, and were this the proper occasion, I would like to rouse the profession to a sense of its responsibility toward the social evil—the black plague which devastates the land. I can but call your attention to an important society, of which Dr. Prince Morrow of New York is the organizer, which has for one of its objects the education of the public on this important question. I would urge you to join in a crusade quite as important as that in which we are engaged against tuberculosis.

CONCORD.

Unity promotes concord—community of interests, the same aims, the same objects give, if anything can, a feeling of comradeship, and the active co-operation of many men, while it favors friction, lessens the chances of misunderstanding and ill-will. One of the most gratifying features of our professional life is the good feeling which prevails between the various sections of the country. I do not see how it could be otherwise. One has only to visit different parts and mingle with the men to appreciate that everywhere good work is being done, everywhere an earnest desire to elevate the standard of education, and everywhere the same self-sacrificing devotion on the part of the general practitioner. Man will tell you that commercialism is rife, that the charlatan and the humbug were never so much in evidence, and that in our ethical standards there has been a steady declension. These are the Elijahs who are always ready to pour out their complaints, mourning that they are not better than their fathers. Few men have had more favorable opportunities than I have had to gauge the actual conditions in professional private life, in the schools, and in the medical societies, and as I have seen them in the past twenty years I am filled with thankfulness for the present and with hope for the future. The little rift within the lute is the absence in many places of that cordial professional harmony which should exist among us. In the larger cities professional jealousies are dying out. Read Charles Caldwell's "Autobiography" if you wish for spicy details of the quarrels of the doctors in the first half of the last century in this country. I am sorry to say the professors have often been the worst offenders, and the rivalry between medical schools has not always been friendly and courteous. That it still prevails to some extent must be acknowledged, but it is dying out, but not so rapidly as we could wish. It makes a very bad impression on the public, and is often a serious stumbling block in the way of progress. Only the other day I had a letter from a most intelligent and appreciative layman who was interested in a large hospital scheme about which I had been consulted. I quote this sentence from it in sorrow, and I do so because it is written by a strong personal friend of the profession, a man who has had long and varied experience with us: "I may say to you that one of the distressing bewilderments of the layman who only desires the working out of a broad plan is the extraordinary bitterness of professional jealousy between not only school men and non-school men, but between school men themselves, and the reflections which are cast on one another as belonging to that clique, which makes it exceedingly difficult for the layman to understand what way there is out of these squabbles."

The national and special societies, and particularly the American Medical Association, have brought men together and have taught them to know each other and to appreciate the good points which at home may have been overlooked. As Dr. Brush said yesterday in his address, it is in the smaller towns and country districts that the conditions are most favorable for mutual misunderstandings. Only those of us who have been brought up in such surroundings can appreciate how hard it is for physicians to keep on good terms with each other. The practice of medicine calls equally for the exercise of the heart and the head, and when a man has done his best, to have his motives misunderstood and his conduct of a case harshly criticised, not only by the family, but by a colleague who has been called in, small wonder, when the opportunity arises, if the old Adam prevails and he pays in kind. So far as my observation goes there are three chief causes for the quarrels of doctors. The first is lack of proper friendly intercourse by which alone we can know each other. It is the duty of the older man to look on the younger one who settles near him not as a rival, but as a son. He will do to you just what you did to the old practitioner, when, as a young man, you started—get a good many of your cases; but if you have the sense to realize that this is inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first delicate situation that arises, the difficulties will disappear and recurrences may be made impossible. The young men should be tender with the sensibilities of their seniors, deferring to their judgment and taking counsel with them. If young graduates could be taken more frequently as assistants or partners, the work of the profession would be much lightened and it would promote amity and good fellowship. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction, and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instincts and who has a sane outlook in life. The men of rival schools should deliberately cultivate the acquaintance of each other and encourage their students and the junior teachers to fraternize. If you hear that a young fellow just starting has made mistakes or is a little "off color," go out of your way to say a good word to him, or for him. It is the only cure; any other treatment only aggravates the malady.

The second great cause is one over which we have direct control. The most widespread, the most pernicious of all vices, equal in its disastrous effects to impurity, much more disastrous often than intemperance, because destructive of all mental and moral nobility, as are the others of bodily health, is uncharitableness—the most prevalent of modern sins, peculiarly apt to beset all of us, and the chief enemy to concord in our ranks. Oftentimes it is a thoughtless evil, a sort of tic or trick, an unconscious habit of mind and tongue which

gradually takes possession of us. No sooner is a man's name mentioned than something slighting is said of him, or a story is repeated which is to his disadvantage, or the involuntary plight of a brother is ridiculed, or even his character is traduced. In chronic and malign offenders literally "with every word a reputation dies." The work of a school is disparaged, or the character of the work in a laboratory is belittled; or it may be only the faint praise that damns, not the generous meed from a full and thankful heart. We have lost our fine sense of the tragic element in this vice, and of its debasing influence on the character. It is interesting that Christ and the apostles lashed it more unsparingly than any other. Who is there among us who does not require every day to lay to heart that counsel of perfection: "Judge not according to the appearance, but judge righteous judgment." One of the apostles of our profession, Sir Thomas Browne, has a great thought on the question:

While thou so hotly disclaimest the devil, be not guilty of diabolism. Fall not into one name with that unclean spirit, nor act his nature who thou so much abhorest; that is, to accuse, calumniate, backbite, whisper, detract, or sinistrously interpret others. Degenerous depravities, and narrow-minded vices! not only below St. Paul's noble Christian, but Aristotle's gentleman. Trust not with some that the Epistle of St. James is apocryphal, and so read with less fear that stabbing truth, that in company with this vice thy religion is in vain. Moses broke the tables without breaking of the law; but where charity is broke the law itself is shattered, which cannot be whole without love, which is the fulfilling of it. Look humbly upon thy virtues; and though thou are rich in some, yet think thyself poor and naked without that crowning grace, which thinketh no evil, which envieth not, which beareth, hopeth, believeth, endureth all things. With these sure graces, while busy tongues are crying out for a drop of cold water, mutes may be in happiness, and sing the Trisagion in heaven.

And the third cause is the wagging tongue of others who are too often ready to tell tales and make trouble between physicians. There is only one safe rule—never listen to a patient who begins with a story about the carelessness and inefficiency of Dr. Blank. Shut him or her up with a snap, knowing full well that the same tale may be told of you a few months later. Fully half of the quarrels of physicians are fomented by the tittle tattle of patients, and the only safeguard is not to listen. Sometimes it is impossible to check the flow of imprecation and slander, and then apply the other rule—perfectly safe, and which may be commended as a good practice—never believe what a patient tells you to the detriment of a brother physician, even though you may think it to be true.

To part from the profession of this country and from this old faculty, which I have learned to love so dearly, is a great wrench, one which I would feel more deeply were it not for the nearness of England, and for the confidence I feel that I am but going to work in another part of the same vineyard, and were it not for the hope that I shall continue to take interest in your affairs and in the welfare of the medical school to which I owe so much. It may be that in the hurry and bustle of a busy life I have given offense to some—who can avoid it? Unwittingly I may have shot an arrow o'er the house and hurt a brother—if so, I am sorry and I ask his pardon. So far as I can read my heart I leave you in charity, with all. I have striven with none, not, as Walter Savage Landor says, because none was worth the strife, but because I have had a deep conviction of the hatefulness of strife, of its uselessness, of its disastrous effects, and a still deeper conviction of the blessings that come with unity, peace and concord. And I would give to each of you, my brothers—you who hear me now, and to you who may elsewhere read my words—to you who do our greatest work laboring incessantly for small rewards in towns and country places—to you the more favored ones who have special fields of work—to you teachers and professors and scientific workers—to one and all, throughout the length and breadth of the land—I give a single word as my parting commandant:

"It is not hidden from thee, neither is it far off. It is not in heaven that thou shouldst say, 'Who shall go up for us to heaven, and bring it unto us that we may hear it and do it?' Neither is it beyond the sea that thou shouldst say, 'Who shall go over the sea for us and bring it unto us that we may hear it and do it?' But the word is very nigh unto thee, in the mouth and in thy heart, that thou mayest do it—Charity."

INDICATIONS FOR SCIENTIFIC PROGRESS IN STOMATOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

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CHICAGO.

In looking over the long list of papers to which we are to listen we are again struck with the enormous importance of the modern principles of dental surgery. You will pardon me when I emphasize the importance of the special study of diseases of the oral cavity and its surroundings, for I am jealous of the reputation of this Section. It is a matter of pride to show that we have not only held our work in respect but have been followed by a conservative country, i. e., England, which at the last meeting of the British Medical Association (1904) founded the Section on Dental Surgery, putting it in its right place in relation to the sciences of medicine and surgery. As a step forward this should do much to raise the standing of the dental profession and, more important still, to impress the general public. Dental surgeons now will, it is hoped, take a larger interest in general medicine, pathology and surgery, both in their practical and in their scientific requirements; and the medical men themselves will be found to take more interest in some of the special points relating to our science and its pathology.

Oral pathology, indeed, bears a startling and unexpectedly close relationship to general medicine and surgery and may elucidate many obscure cases. I refer to the work of oral sepsis as first studied by Dr. William Hunter[1] of London in 1900 and his special division into *oral sepsis,* i. e., the various effects of streptococcal and staphylococcal infection found in the mouth and oral infection or infection through the mouth in diphtheria, tuberculosis, influenza and pneumonia.[2] To the valuable work of this author, we can add the results of Mr. Goodlee, Mr. Owen, Dr. Sidney Martin, Professor Grawitz and Sir Thomas Barlow, men whose observations are entitled to the highest appreciation and from whose papers valuable data can be secured. How much does the improvement in surgery owe to the dental surgeon? Certainly in the results of excision of the tongue, removal of the maxillæ, operations on the nasopharynx,

1. Hunter, William: British Medical Journal, July, 1900. Monograph on "Oral Sepsis."
2. Hunter, William: British Medical Journal, Nov. 19, 1904. Turner, J. G.; "Oral Sepsis," Practitioner, February, 1905.

cleft palate and cosmetic operations, more radical cures have been done, not only because ordinary hemorrhage and septicemia are far less common, but the danger of septic pneumonia, parotitis and erysipelas is much diminished.

The first step in advance was Campbell de Morgan's application of zinc chlorid to the raw surface at the end of an operation. Then carbolic acid had its day, followed by iodoform, then Whitehead's varnish and other applications of a similar nature. The greatest advance, however, lies in sending the cases to a dental surgeon, for the important steps needed are: 1. Scaling teeth. 2. Opening and cleansing pyorrheal pockets. 3. Extracting and filling carious teeth. 4. Waiting for the operation till after a thorough cleansing toilet orally and systematically. 5. The insisting on antiseptic mouth washes, which, according to their length of use and ingredients, become deodorants, disinfectants, detergents, antiseptics and germicides.

It may be asked how this work can be accomplished by one or even by two dental surgeons who are attached to a large hospital, and who unfortunately may forget that holding several such appointments cannot always be conducive to the welfare of the patients. True, many of these appointments carry only the honor, and nothing else, with them and much valuable material is never utilized in any way and I would suggest that the method of handling such hospital work be considered. Is it by increasing the dental staff or in the simpler methods of preventive medicine? In the limited time at my disposal I can only point out the national importance of avoiding septic conditions of the mouth, as they are a frequent cause of cervical tubercular adenitis—a fact seldom considered by either department of the medical or the dental professions. If a child has a tendency to enlarged glands, shall the teeth be extracted, especially when we have gingival abscesses, stomatitis and live teeth present, as is so often the case in primary dentition?

Tuberculosis is another disease which shows the need of careful investigation. Tuberculosis of the tonsil is rarely a primary condition in children, but is considered by Kingsford[3] as a common condition, for, in spite of the opportunities afforded the dentist of noting the oral conditions of children, especially in regard to adenoids and their sequel, mouth breathing, as a common antecedent to phthisis, the connection between these conditions seems to be inadequately recognized, but it is obviously of practical importance, if only as regards prophylaxis. That one-fifth of an unselected series of consumptives are found to be mouth breathers and that such a trifle as projecting teeth may conspire with unfavorable conditions to make a patient phthisical seem facts worthy of our attention.

Another statement we often hear, especially from the older medical men and from the laity in regard to a suppurative tooth is: "Wait till the swelling goes down before you have anything done to it." Are there any grounds for this idea, any danger in opening the abscess or in extracting the tooth if badly diseased, thereby saving the patient pain, danger and delay? We are warned against extraction of the sequestrum in cases of necrosis before complete separation, for violent septicemia and death have been reported in patients with unhealthy mouths. Godlee[4] mentions septic thrombosis of the facial vein which has spread upward and caused fatal thrombosis of the cavernous sinus; and embolic pyemia has been known to occur in the same way.

Necrosis of the mandible and of the maxillæ has been seen in children as a sequence of alveolar abscess and even of infection of the antra and of other air sinuses, especially following attacks of influenza. A question for your consideration is the origin of the parotitis following laparotomies. The theory now advanced seems to depend on the patient's having been starved so long that the functions of the salivary glands are in abeyance, septic organisms follow the largest salivary duct which would not occur if it were acting in a normal physiologic manner. However this theory may be, it seems a welcome explanation of this painful and dangerous sequel, sometimes occuring even when every aseptic precaution was taken. The theory of starvation is not acceptable in all cases, for we know that when wearing artificial dentures, patients may have this condition, even in the submaxillary and sublingual glands, which I suppose is due to pressure on the ducts. Again, conditions in which the saliva is ropy and viscid produce the same state and on dilatation the saliva may be taken out in thick ropy masses, thus relieving the swelling, pain and discomfort.

Another subject for some thought is the question of treating the open wound following extraction of teeth. How many of the operating rooms of the big concerns called "extracting parlors" ever pay much attention to aseptic and antiseptic treatment. Would the wounds benefit by local applications, as recommended by Prof. R. J. Godlee, of zinc chlorid (40 gr. to 1 oz. of water) and iodoform to the raw surfaces?

To Harvey Cushing[5] of Baltimore we are indebted for first showing surgeons the importance in operations on the stomach and intestines of a preliminary sterilizing of the mouth and of all foods administered by the mouth.[6] With the rapid advance of science it is impossible to keep pace with all that is being done, and it requires nearly all one man's attention along one line of research to enable any study to be well done. It must not be exclusive, however, for, as a rule, pure specialism tends to narrowness. "There must," said Dr. Billings "be specialties and specialists, and the results will be good or evil, but the evils fall largely on those specialists who have an insufficent general education, who attempt to construct the pyramid of their knowledge with the small end as a foundation." If the field of any specialty be narrow it can be dug deeply. In science, as in mining "a very narrow shaft, if only it be carried deep enough, may reach the richest stores of wealth and find use for all the appliances of scientific art." So in special branches into which all practitioners of medicine are being divided, it is necessary to recognize the influence and the presence of the general practitioner, whose wide knowledge of his patient's condition must prove of invaluable assistance to any special worker, and nowhere do we need it more than in dental surgery, for even blepharospasm has been known to have a dental etiology. The mechanic can never be the true dentist, without a knowledge of general science and

3. Kingsford: Lancet, London, 1904.
4. Godlee: Brit. Med. Jour., Nov. 19, 1904.

5. Cushing, Harvey: "Experimental and Surgical Notes on the Bacteriology of the Upper Portion of the Alimentary Canal, with Observations on the Establishment there of an Amicrobic State as a Preliminary to Operative Procedures on the Stomach and Small Intestine." Vol. ix, Johns Hopkins Hospital Reports.
6. Hewetson, John T.: "Bacteriology of the Human Alimentary Canal and of the Inflammatory Processes Arising Therefrom." British Medical Jour., Nov. 26, 1904.

pathology, which gives the etiology of disease and general medicine and surgery; but the true scientific dentist can by experience become more than a mechanic and with far better success, for he knows the pitfalls and the dangers to his foundation from his principles of mechanics.

In diagnosis we need further teaching and study. Take for example the use of transillumination of the antrum of Highmore.[7] Expertness in this method (Druchleutung) was attained by Czermak in 1858 in studying the larynx and by Voltolini in 1888, who first transillumined the antrum while studying the bones of the face, Heryng placing it on a practical base. Vohsen in 1890, by using a stronger light, showed that the eye also might be transillumined, the pupil appearing as a red disc. In 1892 H. Brown Kelly of Glasgow showed that by this method a person with closed eyes sees a dull red glow if the antra be normal, but if the antral *tache* be absent the subjective light sensation will also be absent, and its value as an agent in chronic affections of the nose and antra, etc., needs more study. The field of investigation for the *x*-ray and stereoscopic radiography is new to us, but is yielding much valuable information as well as warnings of its dangers to both subject and operator, and showing that only skilled workers should be allowed to operate such far-reaching agents as the *x*-rays.

At the present time dental bacteriology is in its infancy. If, as Arkövy and Goadby[8] point out, we have a new form of microbe of a very pathogenetic variety in connection with pyorrheic pus, an explanation of pyorrhea or caries alveolaris specifica or interstitial gingivitis or osteomyelitis may be found, and we hope a terrible scourge in oral pathology stopped. With the present unsettled work in connection with the group of pus germs and their varieties much has to be done to prove their identity and their relationship before we can profit by the serum treatment or the effect of toxins on the peripheral nerve endings of the gingivæ. Mikuliez has recently developed a most interesting problem. By injection of nucleic acid or even of normal saline solution, an artificial hyperleucocytosis may be produced which may combat bacterial invasion even when this has already made itself manifest, such as in diseases of the stomach and intestines which demand surgical interference.

So far as I know, little or no work has been done on the influence of the growth of bone on the positions of teeth. Who has not noted pathologic effects from bone changes without any seeming cause, or with an early gingival and pyorrheal condition which may lead to atrophy, osteomalacia, crowding and even turning of the teeth from the normal?

The question of having or not having some softened dentine over a pulp nearly exposed is often wrongly interpreted; consequently excavation is too superficial and masses of carious dentine left, notwithstanding energetic disinfection. Partsch has demonstrated in his valuable work on decay of the dental pulp, that bacteria will soon migrate into the pulp and lead to its decay. By far reaching removal, however, of carious masses we reduce the danger of pulp infection to a very low point, but should we risk it unless we carefully note the type of patient? It is claimed by some that pyorrheal teeth are improved if the pulps are removed and if so how has it been proved scientifically?

Other features of interest, on account of the disfigurement and serious trouble likely to follow, are the changes which take place in the bone and tissues surrounding the teeth, causing their change of position, crowding or erosion, altering all the ordinary articulation of the teeth. So far no work on the pathology, etiology or treatment has been considered and the subject is one that requires some attention from this Section as falling within the province of oral surgery and pathology. Our public institutions, such as asylums, jails, county hospitals, and industrial homes have outbreaks of dysentery, stomach and intestinal troubles which are attributed to dyspepsia due to unsuitable food and to confinement with crowding. How many are really due to unhealthy conditions of the gums, mouth, teeth, and are often classed as scurvy? Let these patients be urged to clean the teeth and mouth, using some toothpick, brush, dentifrice or antiseptic wash, and many patients would recover without any change of diet. Let the cleansing of feeding vessels with sterile sand, plenty of soap and hot water be insisted on and diarrhea, dysentery and alimentary troubles generally would become *nil*. Why should not a dentist be appointed to inspect mouth, gums and teeth of every inmate in the Monday parades? The dental outfit should be paraded with the rest of the prisoner's or inmate's equipments. A few extra marks given for attention to these details, and for the neglect of them punishment, would benefit both health and discipline. Prisoners and patients, like other human beings, when dyspeptic or with sore teeth, mouth and gums or when otherwise out of sorts, are liable to take a distorted view of things and to become fractious. Picture a patient without proper means of cleaning his teeth for long periods at a time. The accumulations of tartar, a certain amount of septic material or the *Oidium albicans* (the latter especially if the person is debilitated from some exhausting disease as typhoid, pneumonia, influenza, malaria, and if he is receiving milk in his diet) are not long in working their effects. The gums and teeth become congested, tender and lead to the bolting of food, which, being held in the stomach, causes fermentation with dilatation and cardiac gastric and intestinal troubles and the natural sequences, diarrhea, colitis, appendicitis, biliary catarrh and dysentery. If one believes in the "dysentery ulcers" of the mouth (Cheyne and Burghard) although their exact relation to the stomachic condition is not clear, it is easy to infer how the etiology is established and the course of disease continued. I believe that in many jails in Bengal steps are taken to enforce cleanliness of the teeth by toothpicks, use of toothpowder made of charcoal and powdered burnt alum. The East Indian and African in free life is very careful of his teeth and every opportunity should be given him in prison to keep up this cleanly practice.

The question of the teeth of children in elementary schools is one of our greatest difficulties and since we know the dangers of oral sepsis and its possible origin of septic, pyemic conditions, pneumonia, diphtheria, etc., it becomes one of the greatest gravity. The estimation of dental caries can be better made and its progressive increase will be seen. To arrive at the etiology we shall have to go to the infancy period and see that the chief predisposing causes are heredity and malnutrition; the determining cause is the general neglect of the mouth, but especially allowing the food to accumulate about the teeth and so, by the lactic acid and such

7. British Medical Journal, March 25, 1905.
8. British Medical Journal, Nov. 19, 1904.

micro-organisms as yeast or streptococci acting together, the albuminous substance is dissolved and decalcification of dentin takes place. Improper and insufficient feeding of the mother before the birth of the child should be carefully guarded against. The tendency to use only patent foods instead of pure milk is known to affect the two sets of teeth seriously. Some recent observations by Dr. William Hall of Leeds, England, between the children of Jewish and Gentile parents at various ages shows the Jewish child was not only better developed physically but suffered less from bad teeth. In Mrs. Watts Smyth's book, "Physical Deterioration," we find the following:

> Comparing a Gentile school in a good district with a Jewish school in a similar one, Dr. Hall says that the Gentiles had 8 per cent. rickets, 38 per cent. bad or backward teeth; the Jews 5 per cent. rickets and 11 per cent. defective teeth. In a Gentile school in a poor district there was 50 per cent. rickets and 60 per cent. bad or backward teeth; in the Jewish school 7 per cent. rickets and 25 per cent. bad or backward teeth. The percentage in the Jewish poor district town school was better than the country school, where 7 per cent. had rickets and 33 per cent. bad or backward teeth. As evidence that this condition of the teeth is associated with better physical development the Jewish child aged 7 years weighed on an average four pounds more than the Gentile, at 9 years seven pounds more. Jewish women are better taken care of during pregnancy, more anxious to nourish their children, more attentive in early chilhood and feed them more intelligently.

Once a tooth is formed, nothing will change it for the better, so that the effects of imperfect nutrition will only influence the portion of the teeth then being calcified. Damage done during calcification can never be undone and we are well acquainted with the effect of any serious illness on the hair and nails. Carious teeth give pain of a recurring and most wearing and aggravating character, as well as loss of rest and subsequent impaired usefulness, not only to the sufferer but to all the household as well. This is bad enough for one of mature years, but is more serious for a young child, as it leads to fear, pain, imperfect mastication, dyspepsia, anemia, defective nutrition, intestinal and gastric troubles with toxic effects local and remote, and stunting of the growth—to say nothing of the irregularities in the jaws and teeth—and, added to all this, the infliction of much suffering on others, for his exhaled breath is even worse than that which reaches his lungs. The remote effects are so great as to be legion: Suppurating glands of the neck, diseases of accessory cavities of the jaws, to say nothing of the cancers of the tongue and jaws. If, instead of teaching unnecessary subjects, a little more time were spent in cleaning teeth with some antiseptic tooth powder on the child's arrival in school and before leaving, something might be done. Where some children are taught cleanliness, many are not, for with mixed schools, all classes of children work together and disease is carried from one to another and unclean mouths should be rejected as we would suppurating eyes, ears, or necks.

A subject which has interested me during some histopathologic work is the cause and frequency of a condition resembling obliterative arteritis in the pulps and periodontium. It has some bearing, I believe, on the question of alveolitis, gingivitis and their sequelæ, for in some cases examined pathologic conditions similar to those found in the lower extremities (i. e. in the dorsalis pedis artery, and in the popliteal and tibial vessels) have been described. The lumen is wholly or nearly obliterated by fairly dense connective tissue and round-celled infiltration, and in others are organized thrombi, with well marked and thickened intima and media. Further study of a collective series of cases would perhaps aid in the understanding of so-called pyorrheal conditions, atrophy and recession of the gums with corresponding loss of the teeth. If I might suggest, there should be a collective investigation committee or bureau to which material could be sent and members could then by mutual help, discussion and literature, aid in determining some of the leading questions as to etiology and treatment of many conditions. In a country so large and widely scattered, much valuable material is lost, but, if a bureau of workers were formed, material could be placed in the hands of those competent to study it and could be reported on at the meetings and through the journals, for we sadly need a dental literature index, so we could know something of what others are doing. The loss to workers through the discontinuation of the bibliography by the *Dental Cosmos* can hardly be realized, for few can afford to file all the journals necessary to follow up that work. Tropical diseases are everywhere taking lead with our scientists and it is interesting to see some of the work that is being discussed which has an important bearing to oral pathology and which is bringing to light facts in relation to the teeth, jaws and tongue. Our program shows very nicely the wide application of medicine to dental surgery, of tropical medicine to pathology; the close relationship of the M.D. to the D.D.S.; the need of a broad scientific education as well as its mechanical principles; the value of the bibliographic study; the need for special research; the appointment of dental surgeons to act in public institutions as well as in the Army and Navy; the utilizing of material for study by a bureau of investigation and the early teaching of hygiene to the mother and child so as to increase the physical and economic improvement of our people.

DISCUSSION.

DR. M. L. RHEIN, New York, stated that he is in thorough accord with Dr. Latham's idea of a central bureau for scientific study of pathogenic or other specimens that might be sent from various parts of the country, and hoped that such a plan could be put on foot.

DR. EUGENE S. TALBOT, Chicago, said that, though the average dentist does not see anything in relation to his specialty but the mechanical side, within the last few years certain men in the country have demonstrated that there is hardly a pathologic condition of the mouth that is not due to some constitutional cause. He considered that, perhaps, the most important point in Dr. Latham's paper is that in regard to the treatment and care of the mouth during the development of the child. Almost all of the deformities and pathologic conditions of the mouth, he said, can be produced by a want of proper nourishment; the first period of stress is probably the most important period in the development of the child, and deformities of the jaws, irregularities, etc., are apt to occur when the tissues begin to form. He agreed with Dr. Latham that nerve-end degeneration has much to do with the development and disease of the teeth. In the specialty of stomatology, as well as in other specialties in medicine, autointoxication and mouth infection are important causes of disease, and if this specialty is to take rank with other specialties of medicine these three important points must be considered.

DR. M. I. SCHAMBERG, Philadelphia, declared that workers in this field are better able to realize its scope than the average dentist or the average practitioner of medicine. It is always a great pleasure to be able to do for patients that which so many others fail to accomplish, and it is for the purpose of spreading this information to the general practitioners of medicine and dentistry alike that the Section takes up these topics. It is a pernicious practice to retain abscess teeth until beyond the

acute stage, but extraction of those teeth invariably is not to be advised. In Philadelphia there has recently been established a corps of medical examiners, but it may be some time before it will be possible to place dental examiners in the public schools. From what Dr. Rhein is able to learn there are very few children in the schools whose teeth are not badly neglected; and it shows the necessity for a united effort on the part of dentists throughout the country.

DR. JOHN S. MARSHAL, San Francisco, believed that with absolute oral cleanliness it would only be two or three generations before dentists would be scarce. Diseases of the mouth are usually diseases of neglect and sometimes of filthiness. Some individuals, even ladies, are perfection in dress, in the way they take care of their skin, their finger nails, etc., and yet when they open their mouths the odor of their breath, the discoloration of mouth and teeth, are disgusting. We make the mistake of not beginning early enough with children. Though they may become lax for a time, after they get a little older they will fall into line. Dr. Marshal believed that a great many gastrointestinal diseases and many diseases of the respiratory organs are due to infections from the mouth. He reported briefly several cases illustrating this point. A woman who had been suffering for three or four years with what she supposed was malarial trouble, and who had changed physicians a dozen or more times, getting no better, but being in wretched health, finally came to Dr. Marshal. She had salivary calculi all over her teeth, the gums were badly inflamed and could not be touched without bleeding, pus oozed up around the teeth. It was two weeks before he even got the teeth clean. He then gave her mouth washes and taught her to clean her teeth and to use a toothpick and to use floss silk, and in about four months she was well. The difficulty was entirely due to constant infection from the mouth. Another woman, pale and emaciated, said that she had not been well for four or five years, and that physicians did not seem to be able to do anything for her. She said that her mouth was sore and her teeth loose. She had a partial silver plate with clasps in the upper jaw, and it was utterly buried with salivary calculi between the teeth. It was so bound in position by the calculi that it could not be removed. She did not know that she should remove the plate at night. She said that she had worn it for seven years without taking it out. She was suffering from infection from her mouth and tonsils. On cutting away the salivary deposit, the gum beneath the plate was found to be as raw as fresh beef; the mucous membrane was all destroyed. She recovered after several months' treatment. Dr. Marshal considered this another illustration of constitutional conditions coming from infection from the mouth. He has also seen many soldiers from the Philippines. The majority of these men are from the lower walks of life and have very little education—certainly no idea of hygiene except what is taught them after they come into service. They know absolutely nothing of the care of the mouth; probably never even owned a tooth brush. It is a part of the dentist's duty to teach these men the use of the tooth brush. Those coming home from the Philippine Islands frequently have salivary deposits all over the teeth, the gums badly inflamed, and many of them suffering from pyorrhea. Some of these men are sent home with dysentery or diarrhea. Dr. Marshal said that a thorough cleansing of the mouth, the use of a proper tonic, and giving good mouth washes to keep the mouth clean and to tone up the tissues, have produced wonderful results in many cases of diarrhea. Some have been under treatment for four or five months; others eight or ten months; they usually become well finally. With those having dysentery it has not always been so beneficial. Some are markedly improved, and a few have been cured. Amebic dysentery can not really be traced to infection from the mouth. Dr. Marshal believes that many of these gastrointestinal disturbances are due to secondary infections from the mouth.

DR. FRANK L. PLATT, San Francisco, stated that he is particularly interested in the examination and care of the teeth of the children in school, though he does not know what course can be taken to bring about that much desired condition of affairs. He said that he was appointed on a committee to interview the Board of Education in San Francisco to see what could be done there, and he does not believe that he was ever treated more shabbily in his life, and he really started out with honest intentions. After reviewing the work done in Europe and some of our eastern cities and states, the committee did not seem to be at all impressed with the importance of the matter. When Dr. Platt referred to the fact that several years before the board had appointed an oculist to examine the eyes of the children in schools, it was insinuated that pecuniary profit had a part in the motives of the professions concerned. These bodies must be impressed with the importance of this work. Back of it all there must be a change in education, dentists must be better educated. With men and women who realize the importance of this specialty, and who are enthusiastic, there will be an impulse that will not be put down. Dr. Platt stated that he has spent considerable time in work along this line and is utterly disheartened to find how few men or women are really enthusiastic. Most of them are working for bread and butter. It is hard to arouse any enthusiasm, and I think the fault lies in the foundation—in the teaching. It is of vital importance to the coming generation of people in this and every civilized country that mouths be taken care of. If the authorities could be impressed with the importance of this matter so that they could not pass it over with a slur, then something might be accomplished. It might be a good plan for some of the profession to be elected mayors of cities. Back of it all, he said, there is the question of scientific education and enthusiasm of the student; that it may not be simply a means to an end, and that end bread and butter.

DR. G. V. I. BROWN, Milwaukee, declared that the stomatologist must himself be educated; the members of his profession must be better educated; the general practitioner of medicine should be educated in this direction; the people should be educated, and the patient should be educated. Dr. Brown said that when he hears discussions of this sort he always feels that some tribute ought to be paid to the men who for years and years in the face of great discouragement have patiently persisted and lent their best efforts to the fixation of one idea, that this branch of medical science needs special care and education, and that it is of unusual value to the human race. This can be accomplished, first, by elevating the science in such a way that scientific men can be made to understand that these things are true. Other people can be impressed by actual demonstration with the seriousness of these affections, and demonstration also of the simplicity of their correction at an early period. Everybody knows in a general way the possibility of infection of the mouth causing serious disturbance, but they do not, and dentists do not, recognize these conditions in an incipient state. Patients with these disturbances come first to the dentist, and the dentist does not recognize them. Dentists can all recognize them when they have reached a serious stage, but they fail to understand early enough that they are serious conditions.

DR. V. A. LATHAM said that a better medical training is needed, not a dental training. Dentists are all apt to become mechanical; they do not connect the medical work closely enough with the dental. It is like teaching students histology and pathology without anatomy; they do not get foundation principles, and in that way they miss the anatomic bearings to the detriment of all their work. Crowning, bridging, etc., are always taught because the dentist is supposed to replace lost organs and in that way to strengthen them; but he must first see that the primary organs are in good condition. Therefore, Dr. Latham thinks that some pressure should be brought to bear on the dental schools. She asked why dentists are the only specialists who are required to have a special degree, and why the dentist should be anything other than a doctor of medicine. Every man, Dr. Latham thinks, should be trained as a physician for dentistry, and then allowed to specialize; mechanical training is not the only thing. Her experience with girls about the age of puberty is that many cases of chlorosis come with inflammation of the gums and ultimately lead to pyorrhea. If the medical man could be trained in the early symptoms of pyorrhea, she believes that much good could be done. Dr. Latham declared that none of us know the etiology of half the mouth infections, and that it is only by the co-operation of both the medical and the dental branches that the best results can be obtained.

ly obliterated by fairly dense connective tissue and

Original Articles

THE TREATMENT OF SUPPURATIVE AFFECTIONS OF THE FACE AND NECK EMANATING FROM THE MOUTH.*

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Early in the history of medical science, surgeons realized that to render the human economy a service meant to imitate and to anticipate Nature's own method of disposing of disturbing elements. Thus the evacuation of pus whenever it is found within the body became one of the cardinal principles of surgery.

Suppuration is a cleansing process, an effort to throw off a virulent irritant. Unaided, the vital forces will ultimately effect an evacuation of a pus cavity, but the method is slow and is attended with certain dangers, prominent among which may be mentioned a change in the integrity of the surrounding structures.

For a long time, the use of poultices which would bring boils "to a head" and cause abscesses "to point" was considered proper treatment. Now most surgeons advocate the prompt evacuation of suppurating areas as soon as the presence of pus is determined. Why many should fail to apply this more advanced method of treatment to abscesses associated with the teeth and jaws it is difficult to say. There is no part of the body surface where a scar following the rupture of an abscess is more disfiguring than on the face or neck, and yet how often do we meet with extensive suppurations in these regions which have been encouraged by the use of the hot water bag or the poultice. Unfortunately, relief from pain is frequently effected by the application of heat to the face during attacks of dentalgia and patients are ever ready to apply this treatment. It, therefore, becomes the duty of medical and dental advisors to discourage this unwise practice, for most affections about the jaws which can be relieved temporarily by heat are suppurative in nature.

The larger proportion of pyogenic infections of the face and neck, save those which occur through the skin, emanate from the mouth. The throat and nose are occasionally the seats of initial infections which spread to other parts of the face; but the oral cavity proves to be the most prolific source for the invasion of pus-producing organisms. This is evidently due to the fact that the teeth, by virtue of their presence in the mouth and the various diseases to which they are subject, invite the lodgment of food and other oral débris and transmit infections to the deeper structures. Edentulous mouths are seldom troubled with extensive suppurative processes. It is true that pus organisms may gain entrance into the tissues through wounds within the mouth, by way of the ducts of the salivary and mucous glands and by direct absorption, but such infections are unusual and are of serious moment only in patients with markedly debilitated constitutions.

Suppurative parotitis and other deep-seated infections which have no etiologic relation to the teeth are usually handled intelligently by the general surgeon, and, therefore, will not be considered at length in this paper.

So often do patients present themselves with swollen faces indicating suppurative foci in the superior maxillary, inferior maxillary and submaxillary regions in which the symptoms of tooth involvement are obscure, that a careful examination of the mouth becomes necessary for the proper detection of the underlying trouble. It must be remembered that the exciting cause of a maxillary, palatal, pharyngeal, tonsillar, buccal or cervical disease may be located in or about a tooth and that the successful treatment of any suppuration is dependent on the true recognition of its etiologic factors. Some of the most usual abnormalities about the teeth which cause a breaking down of the adjacent tissues are the apical and peridental abscesses, and these are occasionally difficult of detection until such time when a fistula is created or the parts become swollen. A putrescent pulp in a tooth with little evidence of its presence has been known to produce maxillary troubles of considerable magnitude. Ofttimes a pyorrheal pocket may go unobserved for some time and may cause involvement of the nearby tissues, and, secondarily, of the lymphatic glands. It is evident, therefore, that to properly treat suppurations which take place about the face, a just regard must be given mouth conditions which may be active in causing such infections.

Another class of cases are those in which infection takes place in distant parts through the lymphatics. During the past year, a number of patients came under my observation in whom the lymphatic glands of the submaxillary and cervical regions had become enlarged through infection which took place about impacted third molars and from other pus areas in the mouth. These conditions in themselves appeared to be of little consequence and might readily have gone unobserved had not a careful examination of the mouth been made. Inflammations spread very rapidly to the deeper tissues from pockets formed about lower third molars and may extend to the throat, leading to suffocation, as a result of an inflammatory edema of the glottis. A case in which the throat was so badly swollen as to interfere with respiration, came under my care last summer and received prompt relief by the removal of a crowded third molar. When inflammation extends to the temperomaxillary articulation, the examination of the mouth is frequently rendered difficult through fixation of the jaw. In some cases in which the lymphatics become involved, the glands are so badly overworked that they break down and require surgical means of ridding them of their contents. The suppuration of the neck in two cases seen by me during the past winter was so extensive as to suggest Ludwig's angina. In fact, it is not unreasonable to suppose that in most, if not in all cases of Ludwig's angina, the avenues of infection, if sought for, might be located within the mouth. The statement made by many authors that such cases usually occur after typhus fever and other debilitating diseases, merely substantiates this belief, for during the course of most protracted fevers unless the greatest care is given to cleansing the mouth it will be found to be in a deplorable state of filth.

The treatment of suppurative affections of the face and neck which emanate from the mouth may be considered under the heads of preventive, abortive and curative treatment.

PROPHYLAXIS.

Preventive treatment consists of the proper attention to the care of the mouth and teeth. The scope of this work is so broad as to include all departments of dentistry. It would, therefore, be manifestly impossible, as well as inadvisable, to deal in this short paper

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terview the Board of Education in San Francisco to see what best results can be obtained.

with all that might be embodied in the practice of oral prophylaxis. Suffice to say, that if all mouths were to receive a reasonable amount of intelligent care in the hands of competent dentists and if this work were supplemented by the patient's personal attention to oral cleanliness, many of the extensive suppurations about the face and neck would be averted.

In connection with preventive treatment, too much stress cannot be laid on the importance of curing every abscess, checking the pus discharge in every pyorrheal case and removing other infective foci, even though the loss of teeth is thereby necessitated. An emphatic stand must be taken in this regard for the reason that the prolonged retention of uncured teeth not alone endangers the integrity of the surrounding tissue, but ofttimes lays the patient liable to constitutional disorders of a more or less grave nature.

ABORTIVE TREATMENT.

Abortive treatment is applicable in cases in which there has been little suppuration, and is dependent primarily on the removal of the cause, and secondarily on the institution of such measures as will check the inflammatory changes which have taken place in the tissues, and thus aid Nature in restoring the parts to the normal. The intermittent application of cold compresses or the ice bag has proved to be of considerable value in reducing the inflammatory swellings about the face and neck, and has frequently prevented the breaking externally of abscesses in these regions. While a cold application to the face does not afford the comfort or relief from pain that heat does, its tendency is to prevent rather than to encourage suppuration. Ichthyol ointment and other similar preparations are occasionally of value in mild inflammations affecting the soft tissues of the face and neck, but have the disadvantage of acting like a poultice when pus has already formed. In all cases in which an infection is known to have occurred from within the mouth, the patient should be instructed to use with regularity a good antiseptic mouth wash. If the lymphatic glands of the neck have become enlarged, the therapeutic application of the *x*-rays will be found of service in reducing them. In all cases, when enlarged glands of the neck have not disappeared after the initial trouble has subsided and when other methods of treatment have failed, the *x*-rays should be given the opportunity to cure before resorting to excision. X-ray treatment in my hands has been a valuable adjunct in dealing not alone with enlarged glands, but with many suppurative conditions about the face, including alveolar pyorrhea.

CURATIVE TREATMENT.

Curative treatment consists primarily in the evacuation of pus as soon as its location is detected. If the case is seen early, this can usually be done by incising the abscess from within the mouth. If the disease is at the end of the tooth and has not yet passed through the alveolar process and drainage can not be readily accomplished through the root canal, the abscess can be reached by piercing the process with a spear-pointed drill.

The extraction of the tooth at fault is usually followed by relief and little or no subsequent treatment is necessary in the vast majority of cases to produce a permanent cure. The sacrifice of a tooth is justifiable in cases in which the patient's life or health is put in jeopardy by its retention, or when the removal of a tooth will prevent the necessity for draining an abscess through an external opening on the face or neck.

When once the decision is reached that a tooth will be of no further service to the patient, or that its removal is essential to the cure of an abscess, no time should be lost in relieving the patient of the offending member. The antiquated method of awaiting the passing of the acute stage is without justification and this practice should be condemned as obsolete and pernicious.

Removal of teeth will not, however, invariably effect a cure or adequately drain an abscess. Recognition must be given to cases in which the pus has burrowed its way through a small fistula in the jaw bone and set up a more extensive abscess in the soft tissues beyond, as sometimes occurs in the infraorbital region above and in the submaxillary triangle below.

Abscesses from the upper teeth which spread to the roof of the mouth or infiltrate the cheek can be readily evacuated by incisions made within the mouth. Many abscesses in the lower jaw can likewise be opened into the oral cavity, but when, as sometimes takes place, the pus has reached the submaxillary triangle, the extraction of the tooth or an external opening on the neck becomes necessary.

In operating on abscesses of the face and neck which require external openings, large incisions are seldom, if ever, warranted. For some time I have been using a trocar and cannula in place of the knife for puncturing these abscesses. The pus will readily drain through the cannula. As soon as the trocar has been removed, a small piece of rubber drainage tube with mural apertures can be inserted in place of the cannula and allowed to remain until all pus discharge has ceased. The resultant scar from this surgical method, in most cases, will prove to be nothing more than a submaxillary dimple, and in some instances is no more conspicuous than the average pock mark. In all these cases every effort should be made to produce as little facial disfigurement as possible, and the method of operative procedure that has just been outlined will do much to overcome the unsightly scar that follows the gaping wound that many surgeons make. A very small opening with a trocar and cannula, followed by curettement and the insertion of a small-caliber drainage tube, will be sufficient to assist Nature in ridding itself of the most extensive abscess that appears in the regions referred to.

It might be well to keep in mind the necessity for passing a safety pin through the outer end of the tube, or for adopting some other means to prevent its being lost in the abscess cavity.

A large, wet bichlorid of mercury dressing applied to the part and held by an oblique bandage will prevent the tube from slipping out and will catch the discharge from the wound. It will be found necessary to shorten the tube as the swelling subsides. The daily change of dressing and syringing of the abscess through the drainage tube will be followed by a cessation of pus-discharge within a week or two. The tube may then be removed and the wound allowed to close. During its healing, an ichthyol ointment dressing will act as a convenient protection. If the induration of the subcutaneous tissues and the enlargement of the glands are slow to disappear, the *x*-rays might be applied to hasten the resorption of the inflammatory infiltrate.

DISCUSSION.

DR. JOHN S. MARSHALL, San Francisco, said that he recently had a case of infection either from a hypodermic needle which

had not been properly cleansed, or else the cocain solution had spoiled. The operation was performed by his assistant during his absence, and when he returned the patient had a bad infection abscess in the maxillary triangle. Cocain had been used for the extraction of a tooth. Of course there is the possibility of infection having come from the tooth itself, but it was so much further forward than the location of the tooth that Dr. Marshall was inclined to think infection came from the injection of cocain. A patient with a badly swollen jaw consulted Dr. Marshall, who could find no tooth on that side that could by any possibility have been the cause of the trouble; on further examination he discovered an ulcer under the tongue near the base, and could form no other opinion than that this abscess was caused by absorption through this ulcer. Both of these operations had to be external. In the first case he removed at least a teacup full of pus; in the other less. He was called to see a patient with an impacted lower third molar with tremendously swollen face and neck. He operated and took out at least a pint of pus. That was an infection from the molar. He did not see the patient until long after suppuration had been established, so there was no opportunity for either of these patients to have done anything in the way of prevention. Sometimes these cases result in septicemia. In the case of a man who had a large abscess in the neck, there was a tremendous amount of swelling, the facial artery had been injured in an operation to evacuate the pus, and later emphysematous gangrene occurred in the location of the ligature, which slipped off in the night and the man bled to death.

DR. G. V. I. BROWN, Milwaukee, said that to him there is nothing more puzzling than to know when to make an opening from the outside, and just what kind of an opening. He said that it sounds like a confession of weakness, but it is a grave question early in a case whether to continue in the effort to evacuate on the inside, or to operate.

DR. M. L. RHEIN, New York City, said that infection proceeded by absorption through the lymphatic glands in pyorrhea, but only when there are other complications than true pyorrhea alveolaris. He has never known of a simple pyorrhea alveolaris, in which the pathogenic conditions were preceded by absorption. He has always found some subsidiary complication.

DR. SCHAMBERG maintained that pus in the mouth can gain entrance into the lymphatic channels by absorption. Opening through the canal is contraindicated, except to give vent to organisms before they have invaded the surrounding tissue, and that only when there is no fistula. In wisdom teeth, the prompt removal of those teeth is the best cure. This treatment is only good in acute cases.

THE ETIOLOGY OF TOOTH AND NAIL CORRUGATIONS.*

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Very early in my professional career, the peculiar markings I frequently noticed on the teeth of some of my patients excited my curiosity and I determined to ascertain, if possible, their cause and significance.

These markings, in some cases, were in the form of opaque spots and in others they were latitudinal corrugations somewhat resembling the wrinkles on a cow's horns. These signs were not always present in the teeth of all of the members of the same family. In my researches, I often noticed similar markings on the nails; the lines being both latitudinal and longitudinal. I could not, however, always find these markings in both the teeth and the nails of the same individual at the same time.

I could find but little in medical books or periodicals relating in any way to the subject of tooth markings. References to and descriptions of the pits in the enamel which were supposed in some way to be associated with the eruptive fevers occurring during the period of dentition, and Hutchinson's notches, included nearly everything that had any scientific value. Even now I find but little in addition to what was then given by Hutchinson.

This paucity of literature is undoubtedly due to the widely spread belief that these markings indicate nothing of importance to the practitioner. Such an opinion I regard as erroneous. They have at least an etiologic place in medical literature and, for this reason alone, are worthy of the attention of those who are interested in the general study of causes and effects. They also have other and more practical features of interest—features of which no one engaged in the practice of medicine or dentistry should be ignorant.

It is true that these markings point only to abnormal and interrupted changes in nutrition that occurred perhaps a number of years in the past, when the enamel was soft and impressionable and which, consequently, can have no direct connection with present conditions. But, even so, they serve the very important purpose of revealing and confirming the existence of past diseases, a knowledge of which is necessary to complete the history of any given case. Moreover, they are particularly valuable if detected in their formative stage, because they indicate the origin and nature of the malnutrition which, by proper treatment, at this early period, can be corrected.

After studying and comparing the history of many cases, I became satisfied that the transverse lines on both the nails and the teeth were caused by auto-intoxication of which rheumatism is the result, and that they were more plainly developed, and perhaps alone present in the more painful varieties of this affection, such as lumbago, sciatica, and arthritis, while the longitudinal lines pointed to intestinal indigestion and were especially prominent in colitis, proctitis and hemorrhoids.

It then occurred to me that the corrugations on the teeth of young children might have been caused by an attack of rheumatism from which the mother suffered during gestation.

Years afterward, I found this hypothesis to be correct by the discovery, substantiated by ample evidence, that mothers who suffer from rheumatism during gestation bear children whose teeth are corrugated, and that the teeth of children who have rheumatism during the period in which the enamel of the permanent teeth is developing are also corrugated.

From these facts I was forced to conclude that the responsible cause of the corrugations on both the teeth and the nails was auto-intoxication. Auto-intoxication, as is well understood, results from the absorption of certain toxins, as ptomains, etc., which arise from the intestinal fermentation. These interfere with normal functional activity, clog the emunctories, pollute the blood stream, and produce a substance, readily seen in the blood, called rheumatic fibrin.

That the auto-intoxication which occurs from the absorption of these bodies is the cause of rheumatism, is a conclusion I arrived at eleven years ago, while suffering from an attack of this affection so severe as to render me helpless for many weeks. This opinion was amply verified, afterward, by clinical experience and research.

Formerly, the presence of fibrin in the blood was believed to be compatible with a healthy condition of the

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

system, but now its existence is held by some to have a pathologic significance only, and to afford the most reliable means of verifying the diagnosis of fibrinogenous disorders, as apoplexy, valvular disease of the heart, tuberculosis, rheumatism, etc. According to this view, even the slight traces of fibrin which some pathologists still maintain is an ingredient of healthy blood, are really due to the prodromal manifestations of disease. The nature of the disease is determined by the appearance and its severity by the quantity of fibrin present.

It is interesting to know that Drs. Watkins and Salisbury claim that the leucocytes produce fibrin after the manner in which the spider spins its web. It is a question in my mind, however, whether these active organisms, instead of creating fibrin as these authors maintain, are not in reality laboring to destroy it. This view is certainly more in harmony with the relation leucocytes are known to sustain toward many other pathologic elements in the blood.

Opaque spots, when found in either the enamel or nails are also an indication of auto-intoxication. As the finger nails of some patients are so carefully and sedulously manicured that all signs, which would otherwise appear, are obliterated, the toenails, in doubtful cases, should be examined, as they will exhibit similar markings.

The lines on the nails will disappear if the system is freed and kept free from auto-intoxication; for the corrugations which appear at the matrix to-day will disappear at the tip in the course of three or four months. When these markings are absent, it is fairly sure that your patient is not suffering with any serious form of either rheumatism or intestinal indigestion.

The fineness or coarseness of the markings correspond with the degree of the severity of the attack, and the position of the latitudinal corrugations determines the date of the attack. If they are found near the end of the nail, it is safe to conclude that the attack occurred about four months previously; if they are found at the center of the nail, about two months will cover the time that has passed since the attack appeared; if the lines are near the matrix, the disease has not existed longer than two or three weeks.

If the longitudinal lines are broken and irregular, they indicate an attack of intestinal disturbance of unusual severity, such as occurs in colitis, proctitis and gout. The position of these angular interruptions in the longitudinal lines, denotes, as is the case with the corrugated lines, the period of time that has elapsed since the attack occurred. It is interesting to note how thin and how brittle the nails become in certain stages of rheumatic affections.

From the foregoing facts and illustrations deduced from clinical experience, it is easy to understand how greatly familiarity with these physical signs will aid the practitioner in making a correct diagnosis of the condition of his patient.

7 West Fifty-eighth Street.

DISCUSSION.

DR. M. H. FLETCHER, Cincinnati, said that the markings on the nails are an established guide to physicians, and that they are especially indicative of disorders of the alimentary canal; but any acute wasting disease which so reduces the assimilative processes of the body that destructive metabolism is present for a period of one or more days will cause transverse corrugations in the nails. The number, size and depth of these are determined by the severity and length of time that destructive metabolism is present. Pneumonia, pleurisy, or any acute attack will show these markings as surely as derangement of the alimentary tract. On this principle, Dr. Fletcher agreed that auto-intoxication of sufficient intensity to bring on an attack of rheumatism would show just as quickly as though it resulted in some other form, but he was not prepared to accept the idea that these markings are especially connected with rheumatism any more than with other diseases. Under the same conditions the enamel organ would be affected while enamel is being formed and leave the markings on the teeth. Dr. Fletcher said that he did not see how Dr. Curtis would know that markings were being formed on the enamel before the teeth were erupted, so that he could "administer proper treatment at this early period."

DR. JOHN S. MARSHAL, San Francisco, said that all dentists see those cases and attribute them to some disease occurring in early childhood during the formation of the enamel. One can tell within six months or a year when these changes took place, and at what period this child suffered from an arrested nutrition or an arrest in the growth of the teeth themselves. A child suffering from measles, scarlatina, diphtheria, in fact, from anything that disturbs the process of nutrition for a time, even a few days, may have marks developed on the enamel. In syphilis also and after the use of mercury cases show more or less notches, which Mr. Hutchinson first described. He first thought that they were entirely due to syphilis, but later he said that the use of mercury to salivation would cause them. These striæ occur in persons suffering from acute rheumatism. Dr. Marshall is in the habit of examining the finger nails of patients, but he has never seen a gouty individual with those striations.

DR. M. I. SCHAMBERG, Philadelphia, said that there is no doubt, when these striæ appear on the teeth and nails, that it means that during the formation of the tooth or nail there has been some defective nutrition. He said that this is evidenced by the fact that these markings occur on the teeth of children from measles, scarlet fever, and other exanthemata of childhood, as well as in syphilis, but he doubted that anyone has been able to find that they are due to any one cause, or that constitutional disease might be diagnosed thereby. The only marking on the teeth that is absolutely pathognomonic when it is typical, is Hutchinson's notch, and even that is frequently improperly diagnosed. Other markings only mean that the patient has at some time during development suffered from some constitutional disease which has influenced nutrition. Dr. Schamberg considered that Dr. Curtis' allusion to the formation of these markings in the embryo-child as due to rheumatism indicates that he has not given the subject mature thought for the reason that during embryo life the permanent teeth can not be influenced. The formation of the enamel takes place in the permanent teeth after birth.

TO WHAT EXTENT ARE TEETH NECESSARY TO CIVILIZED MAN.*

M. H. FLETCHER, D.D.S., M.D.
CINCINNATI.

This discussion as to the doubtful necessity of teeth to civilized man, is not from the view point of "a bald and toothless future," nor is it to imply that I do not believe in their utility, comfort and beauty; on the contrary, I believe that the full number of perfect teeth in their normal position, with healthy environment, gives the best balance, the best harmony and the most satisfaction from every view point, but what civilization may evolve in the future, seems so many ages ahead that it hardly need concern us at the present time. Nature is so kind, however, that she has fixed on us a wide margin of variation from our present standard of normal, and still preserves to us a good state of health.

This is true both in anatomy and physiology, other-

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

wise the callings of surgery and medicine would not exist, in fact, perfect physique with perfect function is so rare that it is hypothetical rather than real. The labors of a physician seem largely to be spent in endeavors to assist nature in restoring the patient to what they consider a normal state; and yet what we consider being well, is most likely quite a distance from perfection.

In any event, many persons live, with comfort, a moderately long life, maimed in some way, or with known defects in some function. There may be loss of tissue in kidney, lungs, brain, teeth and many other organs without serious impairment of health; some of these defects man has learned to supply mechanically, notably artificial limbs, teeth and eyes.

There seems to be something about man, when he finds he is able to supply these losses, which so sets him up in his own estimation that he never loses an opportunity to try his hand, and in regard to mouth and teeth, it is my opinion that many times people are worse off for the effort.

In cases where all the teeth are lost, great benefit may result from substitutes, but no artificial denture is at all comparable to good natural teeth, even if the work be perfect, but poor work seems to be the rule and perfect work rare.

In partial losses of teeth, a large per cent. of attempts at restoration by bridgework and plates, are an injury to the mouth and remaining teeth, and little assistance in mastication, serving only as a matter of appearance, the same as a wig or a glass eye. Appearance, of course, is not to be ignored, but the insertion of jacket crowns, bridges or plates, to replace a partial loss of grinding surface is oftener a detriment than a benefit. First, because their attachments injure the teeth to which they are fastened and bridgework especially becomes filthy and serves as a place of incubation for all varieties of disease germs. Second, because they are not needed, for two molars properly opposing each other do more good work than several substitutes. Third, the actual necessity for chewing the food is not so great as is usually held.

With civilized man, the teeth have ceased entirely to be of use as prehensile organs, that is, for seizing or grasping, or as organs of defense, and the necessity of grinding the food can be replaced by machinery and cooking.

Let us consider then the manner in which the teeth assist in carrying out the processes of life. Toothless animals live on practically the same foods, as to the chemistry, that other animals do. Foods in order to sustain animal life must contain proteids, fats, carbohydrates, water and salts. The necessary chemicals for the digestion and assimilation of their proximate principles are supplied by the various glands and specialized cells of the organism. In the higher organisms these cells are largely located in the alimentary canal and its accessory glands. As digestive organs, the teeth are first, for prehensile purposes, and second for grinding, but monkeys, apes and men neither have to seize their food, nor pick it up with their teeth, because of the perfect development and adaptation of the arms and hands to prehensile uses.

The evolution of human teeth for grinding purposes, has been directed by the necessity of triturating vegetable substances in order to liberate proximate principles from their cellulose envelops (cellulose being indigestible), but since the advent of civilization this object is more effectually accomplished by milling and proper cooking, and the necessity for masticating food is almost completely done away with in man.

Carnivorous or flesh eating animals have no need for grinding because their food is all animal, and all parts of animal substances are soluble in some of the secretions of the alimentary tract. This is especially verified in the edentates whose food is exclusively animal in the form of insects.

Birds and reptiles are omnivorous, that is, they eat both animal and vegetable substances, their food is swallowed without chewing, then soaked in their crops or first stomach and afterward ground by the gizzard, or disintegrated by long maceration in the canal, as the case may be. The alimentary tract, however, supplies all that is necessary for the digestion of all nourishing material found in either the animal or the vegetable kingdoms, dissolves bones with the same certainty as other foods, and liberates starches and other carbohydrates from their cellulose surroundings.

Grass and grain-eating animals of necessity must grind the food well in order that the digestive fluids may better attack and dissolve vegetable substances, to the end that the desired proximate principles may be extracted and assimilated. The preponderance of indigestible material in vegetable matter is so great that the herbivores of necessity have larger abdomens and more ample intestines for the purpose of receiving and holding large quantities, in order that they may utilize enough food to sustain life.

All these animals have two dstinct types of teeth, namely, incisors for seizing or grasping, and molars for grinding. Their molars are all large and suitable for grinding their peculiar kinds of food. These animals are provided with other means of defense than the teeth, such as horns, tusks and sharp hoofs, or with unusual running powers.

Flesh-eating mammalia use their teeth for defense and prehensile purposes, but, as stated, have no need of teeth for grinding, the food being taken care of by the juices of the alimentary canal. Animal substances contain a very much larger percentage of nutritious material than vegetable, consequently there is not the necessity for eating such great quantities; as a result, the alimentary canal is less capacious and usually the animal is smaller than in vegetable and grain eaters. The teeth are long, sharp and strong for tearing and for defense, the claws assisting in defense and in seizing food.

Man is classed with the primates, eating all varieties of food, and for this reason is called omnivorous, the hands are used for defense and for prehensile purposes, hence the lack of necessity of long, sharp front teeth for grasping, tearing or defense. Even prior to civilization the superior intelligence of primates enabled them to select their foods, which consists of flesh, fruits, nuts, succulent roots, etc., the grinding of which is neither so difficult nor so necessary as that of twigs, grasses and raw grain.

It is easy to understand how great the loss of one or more teeth would be to an animal which depends entirely on these organs for not only procuring the food, by nipping grass, twigs, etc., but for its trituration and separation; whereas the loss of one or more teeth to a flesh eating animal would not mean so much providing enough were left for seizing and killing its prey. With the intelligence of primates, such a loss can be supplied to a great measure, by the selection of foods.

With the superior intelligence of civilized man, assisted as he is by milling and cooking, the actual necessity of teeth is almost *nil.* Laying aside the delights and entertainment of masticating palatable foods, and also the conventional ideas of beauty of the teeth, let us consider the part which chewing the food plays in carrying out the process of life and health in man.

The following quotations from the last edition of Kirke's "Physiology" seem a fair sample of the generally accepted idea of the subject:

Page 518.—**The act of chewing or mastication is performed by the biting and grinding movement of the lower range of teeth against the upper. The simultaneous movements of the tongue and cheeks assist partly by crushing the softer portions of the food against the hard palate and gums, and thus supplement the action of the teeth, and partly by returning the morsels of food to the action of the teeth, again and again, as they are squeezed out from between them, until they have been sufficiently chewed.**

The act of mastication is much assisted by the saliva, and the intimate incorporation of this secretion with the food is called insalivation.

Mastication is much more thoroughly performed by some animals than by others. Thus dogs hardly chew their food at all, but the esophagus is protected from abrasion by a thick coating of very viscid saliva which lubricates the pieces of rough food.

In vegetable feeders, on the other hand, insalivation is a much more important process. This is especially so in the ruminants; in these animals the grass, etc., taken is hurriedly swallowed, and passes into the first compartment of their four-chambered stomach. Later on, it is returned to the mouth in small installments for thorough mastication and insalivation; it is then once more swallowed and passes on to the digestive regions of the stomach. This is the act of rumination or "chewing the cud."

In man, mastication is also an important process, and in people who have lost their teeth severe dyspepsia is often produced, which can be cured by a new set of teeth.

This "cure by a new set of teeth" I believe to be often overestimated, since many mouths are of such a shape, or the tissues in such a condition that the greatest skill can hardly create artificial teeth that are usable, and if the teeth be necessary, advice to have them extracted should be well considered before it is given. It is a fact that many never learn to wear artificial teeth with benefit, even though they are perfectly made, the whole of the digestive work being done in the stomach and intestines.

As to insalivation, the saliva in reptiles is almost entirely for lubrication, it being copious and viscid. It seems to be largely so in all animals, but more especially in the carnivorous and omnivorous animals, its chemical action, according to Kirke, being small. He says:

Page 478.—**The action of saliva is two-fold: physical and chemical. The physical use of saliva consists in moistening the mucous membrane of the mouth, assisting the solution of soluble substances in the food, and in virtue of its mucin, lubricating the bolus of food to facilitate swallowing.**

The chemical action of saliva is due to its active principle, ptyalin. This substance belongs to the class of unorganized ferments, which are called amylolytic (starch splitting), or diastatic (resembling diastase), the similar ferment in germinating barley and other grains.

The starch is first split into dextrin and maltose; the dextrin is subsequently converted into maltose also; this occurs more quickly with erythrodextrin, which gives a red color with iodin, than with the other variety of dextrin called achroödextrin, which gives no color with iodin.

10 $(C_6H_{10}O_5)_n$ (starch) + 4n H_2O = 4n $C_{12}H_{22}O_{11}$ (maltose) + $(C_6H_{10}O_5)n$ (achroö-dextrin) + $(C_6H_{10}O_5)n$ (erythro-dextrin).

Ptyalin acts in a similar way, but more slowly, on glycogen: it has no action on cellulose; hence it is inoperative in uncooked starch grains, for in them the cellulose layers are intact.

Ptyalin acts best at about the temperature of the body (35-40 C.). It acts best in a neutral medium; a small amount of acid stops its activity. The conversion of starch into sugar by saliva in the stomach continues for a short time, from fifteen to thirty minutes. It then ceases, owing to the action of the hydrochloric acid secreted by the glands of the stomach. The acid which is first poured out neutralizes the saliva, and combines with the proteids of the food, but when the free acid appears ptyalin is destroyed, and so it can not resume work when the acid is neutralized in the duodenum. Another amylolytic ferment contained in pancreatic juice (to be considered later), however, digests starch in the intestine.

It would seem, then, that the chemical action of saliva is so soon cut off by the effect of the hydrochloric acid in the stomach, that this action might be dispensed with, and also that moistening and lubrication can be replaced by the various beverages. Kirke further says:

Page 488.—**The conversion of starch into maltose is the most powerful and rapid of all the actions of the pancreatic juice. It is much more powerful than saliva, and will act even on unboiled starch. The absence of this ferment in the pancreatic juice of infants is an indication that milk, and not starch, is their natural diet.**

Now, assuming this to be the best we know of this feature of physiology, let us add further evidence to the point in question by asking each one how many teeth he has lost and to what extent this loss actually cuts any figure in regard to his health? If you be a physician, what actual knowledge have you that the loss of even eight or ten grinding teeth really makes any difference in the health of the individual? In other words, how necessary are teeth to civilized man?

This feature is well summed up in "Tripler's Manual on the Examination of Recruits," by Chas. R. Greenleaf, Col. Asst. Surgeon General U. S. Army, April 10, 1890.

Under the heading "Loss of Teeth," he says:

The condition of the teeth is to be considered solely with reference to the proper mastication of food. If there are not enough in the mouth for this purpose food is swallowed without the necessary preparation, and indigestion with imperfect nutrition and its consequent evils are the result. If several of the teeth are decayed, especially about the crown, it is probable that before the expiration of an enlistment they will be so far destroyed as to render mastication imperfect; hence, men who have lost the front teeth from decay and have many unsound back teeth should be rejected. The loss of front teeth through accident is not cause for rejection, provided a sufficient number of back teeth are sound.

Unless an applicant has at least four sound double teeth, one above and one below each side of the mouth, and so opposed as to serve the purpose of mastication, he should be rejected. Exception may be made by the Adjutant General in the case of a soldier who desires to re-enlist, if a report is made showing his age, physicial condition as to nutrition, and the number and location of the sound teeth.

If the front teeth remain and the double teeth are gone rejection is demanded.

If the loss of natural teeth is supplied by artificial ones, the fact should be noted on the enlistment papers; but the artificial substitutes can not be considered as equivalent in value to the natural teeth or as removing the disability on this account for military service.

The foregoing seems a practical summary of the situation; that is, that the loss of two-thirds or eight of the "back teeth" does not debar entrance, and if "back teeth," in this case, includes the bicuspids, fourteen grinding teeth could be missing and still the applicant be accepted.

These instructions also indicate that artificial teeth are not at all considered a substitute for natural ones. It must be remembered in this connection that there is not much choice in army rations, a point which no doubt is taken into consideration by the examiner.

I believe, however, that there is no question but that in any modern civilized community, the demands of health can better be met by the proper selection of foods and their proper preparation, where the molars may all have been lost, than by the use of artificial substitutes without such care.

The mutilation of one or more good teeth for the purpose of supplying one or two back teeth in the form of a bridge, seems to be a wholly unjustifiable procedure, even if the work always remained good. In a large percentage of cases, however, either the material or the mechanical work goes to pieces in a comparatively short time, or the anchorage teeth are loosened and lost from the excessive work put on them; the anatomy being insufficient to stand the extra strain to which they are subjected.

The present status of civilized justice, and the general acceptance of the golden rule by high minded people in all walks of life, demands of our specialty that we have the knowledge, first, to advise against the loss of teeth; second, when losses must be or have been made, to be sure that substitutes will be of more use than proper instruction as to suitable diets to meet the case. Advice as to diet seems quite necessary, since the average layman's idea of physiology seems to be based on taste or opinion instead of on facts; as to this point, I am afraid some of our physicians and dentists come in for the same criticism. Justice also demands that we be above advising work of any kind for the sake of the paltry dollar.

The dollar, however, is acceptable to us as to others, and from this view point, the teaching of the desirability of perfect natural teeth, with perfect cleanliness and how to keep them so; accompanied by the necessary treatment to produce healthy, aseptic conditions, is much more remunerative, and of much more benefit, as well as of more satisfaction to the patient, than the other plan.

Now while clinical and scientific facts seem to show that man can live without teeth, or with a greatly reduced number, it certainly is most becoming in us to advise strongly against the popular idea of the slight importance of the teeth, and to renew our vigor in efforts to preserve them by preventing decay and disease of the surrounding tissues, thus escaping the trouble of premasticating foods and avoiding the undesirableness of substitutes for teeth, also being spared the chagrin and comical pathos of a toothless smile.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago, said that the dentist believes that it is impossible for a man to live without teeth. Dentistry due to uncleanliness in the insertion of bridges, etc., has as much to do with disease as any other one thing. The collection of germs about an ill-fitting crown is more detrimental to man than no teeth. In the lower vertebrates teeth are necessary not only for masticating, but for prehensile purposes. As man rises in evolution the jaws and teeth are of less importance, until at the present time it is questionable whether teeth are necessary. For years Dr. Talbot has believed that men can get along without teeth. Men have lived to be 90 or 100 years of age and have been without teeth for fifty or sixty years. Methods of preparing food to-day do not require mastication, and the jaws show in the evolution of man a shortening up, decay and loss of the teeth due to disuse, and as evolution advances it will be seen that man can get along without teeth. Loss of the teeth due to interstitial gingivitis is a marked illustration of the fact that the teeth are passing. If man lives long enough he will lose his second teeth. In the snake, elephant, etc., teeth are continuous; they come into the mouth, are used a short time, and then pass and a new set comes in. This condition is illustrated in man by the fact that he has two sets of teeth. The first set is lost and a new one takes its place. Interstitial gingivitis is set up and the alveolar processes are absorbed. In regard to bacteria in the mouth, there is no question that modern dentistry is doing more to injure the teeth and the alimentary canal than any one thing. The filthy condition of the mouth under bridges and crowns is certainly not conducive to health. Crowns should never be placed under the gums—should only extend to the line of the gum margin. Immediately the gold margin passes under the margin of the gum interstitial gingivitis is set up and Nature produces absorption, and in a short time the gum margin will recede.

DR. FRANK L. PLATT, San Francisco, said that although it is possible for man to live without teeth, he did not think it a good plan for him to do so. He is heartily opposed to eating prepared food that is easily digested; he is opposed to vegetable food and health food. Patients who have taken up this mode of living are all losing their teeth, show evidence of malnutrition, are anemic and miserable specimens of humanity. Bridge work and crown work properly prepared is unquestionably beneficial. Dr. Platt said that he had lost a bicuspid and molar on each side; about ten or twelve years ago he commenced to suffer from indigestion; he consulted physicians and was placed on different kinds of foods; he had a test meal and the contents of the stomach were examined an hour after. That settled it. He took no more prepared foods. He had some bridgework put in one side, which served all purposes so well that he has never taken time to put it in on the other side. He was cured of his indigestion in a few weeks; having learned to grind his food. He believes that if work is well performed it is beneficial. He does not believe teeth should be left standing alone. A single tooth is better braced by a properly made and fitted bridge; it retains it in position. Teeth were given for a definite purpose, they should be maintained as long as possible, and if any are lost, they should be replaced.

DR. G. V. I. BROWN, Milwaukee, said that the question is not, "Can we live without teeth?" but "Can we live as well without teeth?" The assumption is that because there are bridges and crowns they must necessarily be uncleanly. They often are. These people without teeth have just as many bacteria as those with teeth. A man can get along without legs or arms, but nobody is going to advise him to do so. The surgeons can now remove almost any organ, and yet the patient will live, yet who wants to give up any of his organs? There is a good deal more in this subject than the subject of bacteria. Gingivitis is a natural process taking place in an unnatural way. The animal economy gets along better with a good full complement of teeth than it does without them. The mere fact that the chemist has prepared artificial food that can be digested without mastication is no argument against the use of teeth for masticating purposes. They have been obliged to do this to help out the people without teeth or the people who are too lazy to use their teeth. In a certain sense Nature after a time gets rid of the teeth, but why? Not from a physiologic standpoint at all; it is senile decay. With proper care of our teeth, and of the general health, and by eating proper foods, senile decay can be put off. The natural life of man used to be called sixty years. It is not so now. It is getting to be 90, because we have learned to take better care of our bodies. Mr. Gladstone, Premier of England, was once asked "To what do you attribute your good health and long life?" He replied, "To proper mastication of my food." On being asked what he meant, he said, "I have 32 good teeth, and consequently when I masticate my food, I give every morsel of food that goes into my mouth 32 bites." Dr. Brown expressed his opposition to the idea that we can get along without teeth. We can do it, but with the greatest of care in the preparation of food.

As to the examination of soldiers' teeth, at the Presidio in San Francisco there was a large recruiting camp, and for a time nearly all of the operations performed were on recruits. The regulation required as a minimum 4 teeth that would oppose. Many times examination was made by a physician, and all they did was to look in and see if there were 4 teeth opposing each other. No examination was made as to whether decay was present. These teeth would soon decay after these men went on duty, and indigestion follow; probably these men would be sent home without having done a day's work. Dr. Brown wrote an official letter suggesting that the number of teeth should be raised, that each man should have four opposing molars on either side of his mouth, and greater care exercised in examination of these teeth. This was done, and Dr. Brown thinks that the dental corps did one good thing in raising the standard of the teeth required. Many men invalided home are men with very poor teeth and they have dyspepsia, acute gastritis, acute enteritis, colitis, etc., rendering them useless for service.

DR. M. I. SCHAMBERG, Philadelphia, said that the time may come when people will be able to get along just as well without teeth. Undoubtedly teeth are deteriorating because of lack of proper mastication. It is also true that the use of the third molar tooth is being gradually lost. The jaws are no longer able to accommodate the teeth, and it is possible that in time to come there will be a peculiar formation of head, in which the upper portion will be very broad to accommodate the immense brain, and tapering to a point at the chin, with an aperture sufficiently large to breathe and to take food without mastication. It should not be allowed to go out that dentists believe teeth are useless organs and can be dispensed with.

DR. A. E. BALDWIN, Chicago, considered that there is nothing more productive of a healthy mouth than the use of the teeth. If a man or woman has been so unfortunate as to loose a portion of these organs which Nature supplied for masticating food, bridges and plates—although but substitutes—are good substitutes and to be commended. Some work is detrimental, not only to the conditions in the mouth, but to the durability and efficiency of the natural teeth that remain. Dr. Baldwin considered it possible that a tooth with a crown extending below the margin of the gum might, usually, with certain possible exceptions, produce interstitial gingivitis, but from over twenty years' experience, having seen a great many teeth that had been crowned, he would hardly think Dr. Talbot's position tenable. In some cases it is absolutely necessary to place the crown below the margin of the gum to cover the destroyed portion of the tooth. Crowns are still doing good service after twenty years. Teeth, health, and all vital principles will be better sustained by using foods which demand mastication. Dr. Baldwin urged that patients be instructed as to what they ought to do with the teeth they have.

DR. M. L. RHEIN, New York City, agreed with Dr. Baldwin in regard to a crown that necessarily goes below the gum line. It is all a question of the technic. Dr. Rhein differed decidedly with Dr. Fletcher's contention against the practicability of artificial substitutes. He also opposed the views presented about the future outcome of the race, saying that he could see nothing in the statistical history of the human form that will agree with that view. There is always a diverging point where Nature steps in and saves the day, generally by cross breeding of the races.

DR. V. A. LATHAM, Chicago, said that teeth are not the only things to be considered. Man demands a number of things by which his existence must be carried on. Teeth are only one adjunct of the whole. So soon as teeth are extracted jaws are changed. There is a change in the cusp, and degeneration and a change in the nervous mechanism. Without natural articulation there is an atrophied condition. Recession of the gum follows atrophy. If the tooth is crowned the mouth should be able to take care of that tooth; foreign bodies are encysted in the heart, why should not the gum encyst and take care of that foreign body without being irritated? Dr. Latham expressed her opposition to artificial food.

IS KERATITIS EVER CAUSED BY RHEUMATISM?*

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Rheumatism is a "symptom complex" rather than a definite disease; an infection, though the germ or germs are not agreed on. It must be separated from the joint diseases due to infected wounds, typhoid fever, acute follicular tonsillitis, gonorrhea, scarlatina, dysentery, pneumonia or septic pyemia in this discussion.

For our purpose, rheumatism may be classed as (1) acute articular and (2) indefinite, the first having well-defined symptoms, the second shading off to phenomena hard to characterize, and yet representing a pathologic entity of defective metabolism in fibrous tissue and insufficient elimination of certain waste products.

Clinical experience shows that eliminative agents influence most favorably both rheumatism and associated keratitis. Typical among these are the salicylates, of which Cushny says, "they increase by 12 per cent. the excretion of sulphur; augment the excretion of uric acid from 30 to 100 per cent., and correspondingly increase the leucocytes in the blood. In acute articular rheumatism they have a specific action comparable to quinin in malarial fever."

In rheumatism the fibrous tissues are chiefly attacked. Whether the cement between the fibers and cells be loosened by infection or an excess of lactic acid in the blood admit substances foreign to them is unknown.

Experiments have shown that ligation of the long ciliary arteries of the venæ vorticosæ produces a parenchymatous keratitis, with changes in the posterior epithelium, but observations on the human subject are lacking to indicate their force. There is no *a priori* reason why the cornea should always escape the fate of tendons, endocardium or joints, so the question is pertinent does it escape?

We know that the superficial corneal planes have close relation with the conjunctiva being nourished by an anastomosis of the conjunctival vessels with the superficial ciliary, and enervated by superficial nerves; the middle planes have similar relations with the sclerotic, and the inner with the uveal tract.

As rheumatism may first appear in one valve of the heart and then in the endocardium, so it may appear primarily in the sclera and secondarily in the cornea or primarily in the cornea and secondarily in the sclera; or simultaneously in sclera, cornea, iris, etc.

Whether we regard rheumatism as a germ, a toxin, or other substance foreign to blood or fibrous tissue, it must reach the cornea through the vessels, transversing the sclera, conjunctiva or uveal tract. Unless immune, these are liable to infection before the substance reaches the cornea. Thus is apparent why we see so few cases of primary rheumatic keratitis and so many secondary or simultaneous, and why rheumatic keratitis has so many and varied forms.

The question before us is one of fact: Has the cornea suffered from rheumatism, directly or indirectly?

Most ophthalmologists declare that they have never recognized such keratitis (70 out of 129). Most of the books and medical journals do not even mention the subject. If we knew the specific germ of rheumatism

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

we might extract it from the diseased cornea and joint of a person suffering from rheumatism and by modern methods prove or disprove their identity. Ignorant of such germ, we must answer our question in terms of clinical diagnosis.

In general the varieties of keratitis from constitutional causes are many, but few if any present so distinct a form as to declare their parentage. The interstitial keratitis of children is generally due to inherited specific disease, but no clinician rests his diagnosis exclusively on the appearance of the cornea; he examines the teeth, the family history, etc. In like manner a case of rheumatic keratitis is established only when syphilis, tuberculosis, struma, local injury or infection be excluded; when it is shown that the patient suffers from rheumatism and possibly that he has had one or more previous attacks associated with keratitis, when the keratitis is non-suppurative, when the pain and photophobia are disproportioned to the corneal lesion, and when the case responds favorably to anti-rheumatic treatment after other treatment has failed.[1] A family history of rheumatism strengthens the diagnosis.

As in other constitutional diseases, there are all degrees of intensity—some so clear that a fool need not err, others so obscure as to puzzle an expert. Hence it is possible that in some cases of keratitis a mild form of rheumatism may be overlooked. This is the more likely because the ophthalmologist rarely sees a case of acute articular rheumatism, and because if a patient with keratitis consults him after convalescence from rheumatism, he pays little attention to the constitutional condition, regarding it outside his sphere. Besides, as the acute forms of disease occasion so much suffering, the patient and the physician easily overlook a slight attack of keratitis—the more so as such attacks are in the deep layers of the cornea.

The following are brief abstracts of personal observations:

CASE 1. *Primary keratitis profunda in acute articular rheumatism.*

History.—Feb. 20, 1886, Dr. H. W. Longyear asked me to see Mr. G. W. S., for sudden blindness of his right eye. Mr. S. was a real estate dealer, aged 43, tall, slender and of correct habits. Two weeks previously he was attacked with acute articular rheumatism, involving all the larger limb joints. About a week later he noticed his right eye growing dim, until at my visit he could simply distinguish light from darkness. The pain had not been great nor the circumcorneal injection, only profuse lachrymation.

Examination.—Inspection showed the cornea of whitish gray, most dense at the center and shading to clear cornea ere reaching the limbus; the surface of the cornea was perfectly smooth, and the superficial layers clear, the cloudiness being in the deep layers.

Treatment.—Fearing an iritis, the eye was kept under the influence of atropin and 15 grains of sodium salicylate given every hour till profuse perspiration, and then every two hours. The eye was soaked in hot water for ten minutes before every drop of atropin and the bowels kept free.

Result.—In three weeks the cornea began to clear and in about four months was entirely so. The secondary iridocyclitis left some adhesions. Sixteen years later, with proper correction of refraction, he could see 20/30 and Jaeger No. 1. There has been no return of the disease.

CASE 2.—*Primary keratitis interstitialis with necrosis of cornea, in acute articular rheumatism.*

History.—July 29, 1896, Dr. R. A. Jamieson asked me to see Mr. J. D., who had become blind during an attack of acute rheumatism. He was an old soldier, aged 68, of fairly good habits, but illy nourished owing to poverty and successive attacks of acute articular rheumatism. He had suffered great exposure during migrations of his regiment and many attacks of acute rheumatism, each accompanied with more or less blindness, though in the intervals he saw well. At times one eye was attacked, then the other, and occasionally both. His friends and attending physicians had told him that his eye passed from fogginess to a whitish tint, and then with convalescence gradually returned to a normal look. Generally the pain and redness had not been great or had been overshadowed by the greater suffering from the rehumatism.

Course.—In this last attack, for some unknown reason, the right cornea had necrosed, its substance being a pulpy mass on my first visit, which dropped off, leaving the bare iris, bound by adhesions to the lens. The left cornea was in nearly the same condition, a small portion remaining firm. In both the lost cornea was replaced by cicatricial tissue. During this attack there had been little pain or circumcorneal injection, and only watery discharge.

On recovery, Mr. D. sought to have his pension raised from $24 to $72 per month. In presenting his claim to the Pension Department "rheumatic parenchymatous keratitis" was given as the cause of blindness. The application was refused because the department said no such disease was known. Being pushed, it sent experts from Washington to study the case; it had many eye men in Detroit, Cleveland and elsewhere to study it; it followed up his medical history in all the places where he had suffered blind attacks; he was sent before examining boards other than his own. Finally, after an examination extending over three years the pension was granted, and "rheumatic parenchymatous keratitis" has a place in the Pension Office.

Ere making a diagnosis, I had been careful to eliminate syphilis, gonorrhea, tuberculosis and local injury, and to establish the relationship of the recurring attacks of keratitis to the acute articular rheumatism.

CASE 3.—*Band-like vascular growth on the cornea in a case of subacute rheumatism.*

History.—July 21, 1904, Dr. Moore of Farmington asked me to see a woman, aged 35, long a sufferer from subacute rheumatism and neurasthenia. Two months previously the left cornea began to cloud in its lower and outer segment.

Examination.—At my visit the cloud was more than one-eighth inch broad and of nearly uniform width from the scleral junction to above the middle of the cornea. The vision was greatly limited, but the pain was considerable, there was slight irritation of the iris and circumcorneal injection. The entire opacity was distinctly raised above the surface of the cornea.

Treatment.—I asked permission to dissect the growth with a knife, but was refused. The treatment was antiseptics, hot water and yellow oxid of mercury applied by massage, and antirheumatics.

Result.—Five months later Dr. Moore reported that the opacity had disappeared, leaving a slight film discernible only on close inspection with oblique illumination.

CASE 4.—*Primary keratitis, interstitial, discrete, with subacute rheumatism.*

History.—March 20, 1890, Mrs. W. C. S., aged 28, applied for relief from an irregular interstitial keratitis, plus a small abrasion near the sclerocorneal junction on the inner side of the right cornea. There was moderate conjunctival injection adjacent thereto, much pain and photophobia, all of which had appeared during an attack of subacute rheumatism. Since a child she had suffered from similar attacks of keratitis during recurring attacks of subacute rheumatism, for which she had been treated by the late Dr. G. E. Frothingham of Ann Arbor.

Treatment.—Ordinary tonic and local treatment proving unsatisfactory, antirheumatic was pushed and convalescence rapidly established.

Since then I have observed several similar attacks, more

1. F. Mendel (Munchener Med. Woch.), from an experience of over eight thousand intravenous injections of salicylic acid, says that disappearance of pain proves a doubtful case to be rheumatic, so a diagnosis is cleared up by a single injection.

or less severe, all of which readily yielded to antirheumatic management.

CASE 5.—*Primary marginal keratitis in subacute rheumatism.*

History.—Nov. 20, 1903 Mr. R. McL., a minister, aged 75 applied for relief for a painful eye. For three weeks he had suffered from an attack of subacute rheumatism, and about ten days ago he began to notice an irritation of his left eye, as from a foreign body, a moderate redness of the eyeball, and a whitish spot on the cornea, with abundant discharge of tears. In former rheumatic attacks he had noticed a similar feeling in his eye, which passed away after a time under the use of household remedies; he again resorted to them, but the eye grew worse.

Examination.—There was a shallow crescentic abrasion of the cornea near the upper and inner border, about one-quarter of an inch long and an eighth broad. This was surrounded by a grayish infiltration.

Treatment.—He was treated by hot water, boric acid and dionin, with yellow mercury oxid ointment locally, and large doses of soda salicylate internally. The pain was speedily relieved, and the keratitis rapidly vanished.

Of the first three cases I could find no duplicates in my records; of the last two many duplicates.

In three cases there was a clear history of recurring attacks of keratitis with rheumatism during a period of many years; the keratitis appeared during the rheumatic attack and faded as it declined; all were benefited by anti-rheumatic treatment. All were classed as rheumatic keratitis for the following reasons:

1. They started in the cornea during an attack of rheumatism.
2. Some recurred many times.
3. All other constitutional causes were eliminated.
4. All were non-suppurative.
5. Three were attended with pain and photophobia disproportionate to the corneal lesion.
6. Antirheumatic treatment alone favorably promoted a rapid recovery of either keratitis or rheumatism. In all these five cases the keratitis antedated other involvement of the eye; in two the rheumatism was acute articular; in the others subacute; iritis occurred only in the two profunda cases.

In many people suffering from "indefinite" rheumatism I have observed "Descemetitis associated with iritis;" "interstitial keratitis with scleritis or episcleritis or cyclitis," and have thought rheumatism the cause of all eye lesions. All were most benefited by antirheumatic treatment.

To secure a larger number of clinical observations on the point at issue, the aid of colleagues in every portion of the United States was enlisted by the following queries:

1. Have you seen cases of corneal disease caused by rheumatism?
2. If so, how many? What part of the cornea was attacked?
3. Did the corneitis have any distinctive features?
4. Did any case have more than one attack? If so, how many?
5. Complications observed. If any, what were they?
6. Were the cases male, female, black or white? Their ages, and occupation, if any.
7. What treatment did you find most helpful, and what were the ultimate results?

More or less full answers were received from one hundred and twenty-seven. Sixty-seven replied that they had never seen cases of corneal disease which they could ascribe to rheumatism. Several had seen keratitis which they ascribed to gout. Sixty replied that they had seen one or more cases of keratitis which they believed due to rheumatism. The full text of positive answers accompanies this paper.

The cases of keratitis are divided into three classes, according to the starting point of the lesion. As three reported under two classes, a discrepancy of figures will be noted.

Of primary keratitis in acute articular rheumatism, six observers report one or more cases each.

Of primary keratitis in indefinite rheumatism, twenty-nine observers report one or more cases.

Of secondary keratitis in indefinite rheumatism, twenty-eight had seen one or more cases.

It may be questioned whether the secondary cases should be classed as rheumatic keratitis because either the sclerotic or the uveal tract was first attacked, but it is quite as fair as to call scleritis following a keratitis rheumatic. Without rheumatism there would have been no keratitis in either case, so far as known, the same agencies produced the keratitis, so that the relative time when they attack the cornea or sclerotic does not alter their cause, more than in other parts of the body.

PARTS OF THE CORNEA INVOLVED IN RHEUMATISM.

The outer layers of the cornea are reported primarily involved by nine observers, the inner layers by thirteen, the substantia propria by forty-five. It is quite impossible to determine the actual number of cases included in these reports because some used the term "many cases," others "several cases," or a "few cases," or a "number of cases." If we counted three in each of these indefinite reports, the total number of cases of keratitis caused by rheumatism would exceed one hundred and fifty. The actual number stated was sixty-three. Since the reports were made mostly from memory, the actual number found in case books would be far larger.

In cases of keratitis secondary to scleritis or uveitis the middle or inner layers were always involved and occasionally the outer.

Thus we have the positive testimony of sixty expert observers supporting the proposition that "rheumatism has caused keratitis in most of its non-suppurative varieties"—though all agree that it is a rare complication.

These observers report rheumatic keratitis, giving the following names:

OF THE OUTER LAYERS.

Superficial erosion	1
Dendriform keratitis	1
Superficial keratitis	5
Marginal keratitis	4
Calcium deposit in cornea	1
Phlyctenular keratitis in aged	1
	13

OF SUBSTANTIA PROPRIA.

Steamy cornea	2
Interstitial keratitis	8
Diffuse interstitial keratitis	2
Punctate interstitial keratitis	2
Band-like deep seated opacity	1
General haziness of cornea	2
Keratitis profunda (Fuchs)	2
Keratitis profunda (Spicer)	1
Discrete keratitis	1
Fine sandy cornea	1
Kerato-scleritis	15
Parenchymatous keratitis	6
Deep central keratitis	2
Keratitis (indefinite)	1
	46

OF INNER LAYERS.

Descemetitis	7
	7

TEXT-BOOKS ON RHEUMATIC KERATITIS.

Nearly all text-books and monographs on eye diseases, old and new, fail to mention rheumatic disease of the cornea. In only eight was I able to find the subject mentioned, viz.: Norris and Oliver's "System of Ophthalmology"; Darier's "Ophthalmic Therapeutics";

Posey and Wright's "Diseases of Eye, Ear, Nose and Throat"; Fuchs' "Ophthalmology," de Schweinitz's "Text-Book on Ophthalmology," and the works of Mackenzie and Wharton Jones on the eye.

Neuel and Fenton (Norris and Oliver's "System of Ophthalmology") say (p. 231): "Rheumatism, gout, influenza impaludium, uterine affections and contusions of the cornea are among the rare causes of parenchymatous keratitis" (p. 235). "Different forms of deep interstitial keratitis occur after a chill or attack of acute articular rheumatism" (p. 236). "Descemetitis is caused by syphilis, rheumatism and gonorrhea." Thus rheumatism (indefinite) is said to cause parenchymatous keratitis or Descemetitis, and acute articular rheumatism causes different forms of deep interstitial keratitis.

Darier (p. 153) describes two cases termed "rheumatic parenchymatous keratitis." On page 164 it is stated that "there are forms of scleritis, of sclerokeratitis, of keratitis and marginal ulcers of the cornea resulting from the rheumatic diathesis."

Mackenzie (1855, p. 516,) speaks of an "arthritis corneitis characterized by roughness of the cornea, with haze from interstitial deposits, a bluish-white ring close to the corneal edge and sometimes a slight iritis."

Wharton Jones (1855, p. 126) says: "Rheumatic parenchymatous keratitis occurs in middle life accompanied by rheumatic characters in rheumatic subjects, pain over the brows and temples, cornea dim and rough on its surface; circumcorneal injection most intense at corneal margin; treatment eliminative and antiseptic."

Posey and Wright (p. 313) say: "Rheumatism and gout are causes of parenchymatous keratitis in perhaps a very few cases."

Fuchs (p. 182) describes keratitis profunda thus: "A gray opacity develops in the center of the cornea, in its middle and deep layers and over which the cornea is gray and punctate but not depressed. After several weeks it gradually abates without ulceration. Vessels are few, if any. In rheumatism the pain is violent and the photophobia great. The iris is mildly hyperemic. Lasts from one to two months. Light cases leave clear cornea; severe ones a permanent, diffuse opacity of the cornea. When this disease occurs with intermittent fever or contusions, it is free from pain and is more protracted."

De Schweinitz (p. 315) describes the rheumatic keratitis of Fuchs, confirming the views stated by personal observations.

Thus the authors in these seven text-books teach the causative relation of rheumatism, to the following forms of keratitis, viz: "Parenchymatous keratitis," "checkered interstitial keratitis," "Spicer's keratitis profunda," "interstitial keratitis with roughened external corneal layers," "keratitis punctata," "kerato-iritis," "Descemetitis."

MEDICAL JOURNALS ON RHEUMATIC KERATITIS.

A careful search of the medical journals within reach revealed only seven references to keratitis.

Asmus[2] regards as "characteristically rheumatic the cases of corneal disease, near the limbus, causing a porcelain-white color, lying first in the parenchyma with a covering of stippled epithelium. Later a deep defect is found. The sclera is but slightly involved. The affection yields readily to salicylate of soda.

R. Kalish[3] says that "he has often seen striated, more or less checkered keratitis disappear, after failure of usual remedies, by use of antirheumatic remedies and restricted diet."

F. W. H. Spicer[4] says he has found "a new variety of interstitial keratitis. Of fifty-four cases personally studied, free from any trace of syphilis, three-fourths were associated with alcoholic excess, gout, rheumatism and intestinal sepsis. The average duration of the cases was three months. The condition was a vascular ingrowth with a progressive corneal opacity; in the rest, a conical opacity advancing from periphery to center. The opacity was striated, the lines being slightly uneven, sometimes crossing, and becoming obscured by the advance of the disease. The opacity was either uniform or formed by the union of a number of maculæ and had soft, smooth edges, gray colored. Surface of the cornea was roughened like orange skin—the essential pathologic change being edema of the cornea. Iritis was observed in fourteen cases—no fundus change. He thinks disturbance in the blood supply is the occasion of the disease."

H. Greef,[5] says: "We must regard interstitial keratitis as some particular anomaly of general metabolism, which may be induced by many different morbid conditions, as syphilis, tuberculosis or rheumatism." He reports cases of elderly people in whom interstitial keratitis developed in connection with rheumatism. "Leber, Parinaud, Knies, and v. Hippel describe cases in which they placed rheumatism and interstitial keratitis as cause and effect."

C. Ortale[6] reports the case of a healthy man aged 30 who suffered a kerato-conjunctivitis, with each relapse of an attack of acute rheumatism, which disappeared with the joint symptoms.

Howard F. Hansell[7] reports the following case, which he terms rheumatic keratitis. "A man aged 36, after several days of suffering with dimness of vision, intense photophobia, and excessive lachrymation, exhibited a cornea dotted behind Bowman's membrane with twenty-four small gray discrete spots, scattered throughout its area. Otherwise the cornea was clear, the iris unaffected but the anterior chamber was deeper than normal and the tension plus 1. Eserin relieved the symptoms, the cornea cleared in a few days, to be followed by an acute inflammation of the sclera."

Jonathan Hutchinson[8] reports "a slow, painless, unsymmetrical keratitis punctata in a woman aged 49, subject to rheumatism since childhood, with a hereditary history of rheumatism, but no evidence of syphilis; also a case of kerato-iritis in a man aged 40 with rheumatic antecedents, coming on during a rheumatic attack."

Thus contributors to these medical journals give unquestioned evidence of a belief in rheumatism as a cause of various forms of disease in the substantia propria, as "parenchymatous keratitis," "checkered interstitial keratitis," "Spicer's keratitis profunda," "interstitial keratitis," "keratitis punctata," "kerato-iritis," and an "uncomplicated Descemetitis."

Finally in favor of a rheumatic keratitis we have (1) cases presented in abstract of five different varieties; (2) one or more cases covering about all varieties of keratitis from each of sixty observers—all expert ophthalmologists; (3) authors in seven different standard

2. Klin. Monat. f. Augen., September, 1903.
3. Med. News, April 23, 1904.
4. Lond. Lancet, August 20, 1904, p. 543.
5. Oph. Review, Vol. XVI, p. 182.
6. Abstract, Jour. A. M. A., Nov. 14, 1903, p. 1240.
7. Oph. Record, Vol. XII, p. 523.
8. Oph. Hosp. Reports, Vol. VII.

text-books on ophthalmology; (4) and seven contributors to medical journals.

While these data seem to establish the existence of a rheumatic keratitis, they also emphasize its rarity. This is as might be expected from the peculiar anatomic structure of the cornea and its relations to adjacent tissues. Besides, any rheumatic affection of the eye is rare. Thos. McCrae[9] reports two hundred and seventy cases of acute articular rheumatism treated at Johns Hopkins Hospital without finding any specific germ, any corneal disease and but one eye affected with iritis. If it be rare that an iritis or scleritis can be traced to rheumatism, much more should we expect to find keratitis rare.

No especial form of keratitis can be called rheumatic, as under changing conditions, in different persons, with varied intensity of the disease, it may assume any form. In general the substantia propria is most frequently affected, as is shown by clinical reports.

There is ground to hope that a keener study by all ophthalmologists may reveal a rheumatic origin for some cases of keratitis now classed as "unknown," and so supply the key for more successful treatment.

APPENDIX: OBSERVATIONS OF LIVING OPHTHALMOLOGISTS ON THE EXISTENCE OF RHEUMATIC KERATITIS.

PRIMARY KERATITIS IN ACUTE RHEUMATISM.

G. F. SUKER, Chicago: Yes, one case; middle aged man in whom each cornea would become hazy, with apparent loss of luster, whenever he had an attack of so-called inflammatory rheumatism. His vision was very hazy; at the same time the conjunctivæ were injected, photophobia, lachrymation marked. This haziness was limited to the superficial layers of the cornea, and when he was free from rheumatism, vision was normal. He had two such attacks within about three years. The salicin internally and sodium salicyl (gr. x to oz. i) locally with heat seemed to do the most good. The routine local and constitutional treatment was also carried out. The cornea looked not unlike the steamy "glaucoma cornea": the tension was always normal; iris reaction normal; a slight conjunctival discharge accompanied this. This eye condition lasted about two weeks—the climax was reached in about four days.

F. CARROW, Detroit: Yes; a number. The cases gradually involved the entire corneal structure. The features presented were those of rather mild interstitial keratitis, an infiltration of the corneal structure, without ulceration; number of attacks not known. A tendency to iritis of a mild character, the formation of posterior adhesions without a high inflammatory accompaniment. Asiatics (Chinese) and negroes. Age and occupation not remembered; antirheumatic treatment; large doses of sodium salicylate, salicylic acid, etc. Locally atropin. The results varied, in different amounts of corneal opacity or infiltration. I am sure I have been able to distinguish between ordinary interstitial keratitis, the result so frequently seen in inherited syphilis. I have recently had a case, a young woman, in which all the symptoms of an acute rheumatic affection of the joints accompanied the corneal trouble.

A. W. CALHOUN, Atlanta, Ga.: I have seen many cases of mild interstitial keratitis which I have thought were directly due to rheumatism, though behind the rheumatism there may have been some remote cause. In these patients, I observed that each fresh attack of the rheumatism was accompanied by a fresh mild attack of the keratitis, disappearing with the cause. In all of them the keratitis was treated in the usual way, and with antirheumatic remedies, and in all, with good results.

A. E. BULSON, Jackson, Mich.: I have not had a case of purely "keratitis rheumatica," but several with rheumatic diathesis and suffering with the disease at the time of the corneal attack. Two cases at present, in brothers, attacked within a month of each other. These cases were both taken with la grippe, or a severe cold, followed in about ten days with acute articular rheumatism, and also about this time a marked blurring of the vision of one eye, extending rapidly to hyperemia, photophobia, and severe pain. I have also at the present time a case of "keratitis punctata," with rheumatic complications. Just how much these cases are rheumatic or specific I do not know; I am treating these cases with a view of clearing up the rheumatic condition by giving anti-rheumatics. The local treatment consists of application of bandage, colored glasses and atropia to maximum dilatation. Hot fomentations of sat. sol. of acid boric are applied at intervals during the twenty-four hours. I continue this during the inflammatory stage, and for clearing opacity I am at present using 5 per cent. of dionin. I find this latter drug to act most admirably for this purpose. Every case I have had with rheumatic complications have been interstitial. Some were punctate, and subsequently diffuse. One case the opacity had little points of depression.

N. M. BLACK, Milwaukee, Wis.: Have seen one case; central part of cornea attacked: superficial central erosion, staining slightly with fluorescin, surrounded by an area of interstitial deposit with an intervening area of clear cornea. He had two attacks, complicated with iritis (or this corneal condition complicated the iritis) with almost circular synechia posterior. It occurred in a white soldier. Sodium salicylate was given in 20 grain doses each two hours till physiologic limit; hot compresses; atrop. 1 per cent.; dionin powder and subconjunctival injections once or twice per week. Four weeks' treatment did not fully clear the interstitial area, the synechiæ were loosened in upper and outer and lower and inner part of iris; pain relieved immediately after dionin injection and did not return; patient a hard drinker.

F. B. EATON, San Francisco: Yes, the cornea steamy; with usual infiltrations from episcleritis; have seen many cases of iritis with acute articular rheumatism complicating keratitis—possibly one case of gonorrheal rheumatism. Treatment was salicylate of soda in keratitis with acute articular rheumatism. I can not state that I have ever seen an uncomplicated case of rheumatic disease of the cornea—always the episcleral or scleral tissues were involved.

SECONDARY KERATITIS IN INDEFINITE RHEUMATISM.

B. L. MILLIKEN, Cleveland, O.: I do not recall definitely any cases of inflammation of the cornea, pure and simple, which I am sure was due to rheumatism. I have a case now under my care of iritis with punctate keratitis, marked in character, involving the internal lower third of the cornea, which yielded very promptly to large doses of salicylate of sodium. This was a woman, aged 57, a teacher. Ten years ago she had an attack of herpes zoster on that same side with some choroidal trouble. This attack began apparently as an iritis, with inflammation involving the cornea and not being primarily a keratitis.

S. G. DABNEY, Louisville, Ky.: Sclero-keratitis; yes, a good many. Periphery of the cornea extending near center. Characterized by great obstinacy, moderate pain, and tendency to iritis. Some of the cases had several attacks. Both male and female—white—between 20 and 40. Usual antirheumatics with laxatives internally; heat and atropin locally seemed to act well. I do not think any case of corneal disease pure and simple, without involvement of the sclera, caused by rheumatism, has come under my notice.

P. A. CALLAN, New York City: I can not say that I ever had a case of keratitis pure and simple due to rheumatism, but I not infrequently see cases of scleritis which involve the cornea at the limbus.

S. B. ST. JOHN, Hartford, Conn.: I have never seen a case of purely corneal disease caused by rheumatism, but a number of cases in which an episcleritis caused by rheumatism has involved the cornea—sclero-keratitis.

J. H. THOMPSON, Kansas City, Mo.: Have seen a limited area of keratitis neighboring a patch of rheumatic episcleritis, but never a case of keratitis of rheumatic origin.

MILES STANDISH, Boston: I have never attributed any corneal conditions to rheumatism except such secondary disturbances as sometimes happen in cases of episcleritis and scleritis due to rheumatic or gouty origin.

DAVID WEBSTER, New York City: The only form of corneal disease that I can recall due to rheumatism, is that which so often complicates episcleritis, or scleritis, and spoken of as sclero-keratitis. I have seen a good many such cases; impossible for me to tell how many. The disease is prone to recur. It generally occurs in adults. I have generally followed the treatment recommended in the text-books, and have found such cases tedious and resulting in permanently impairing vision.

G. C. HARLAN, Philadelphia: Marginal keratitis, in connection with conjunctivitis and episcleritis—rheumatic—gouty. Marginal, vascular, small points of ulceration. Four or five attacks. Sometimes accompanied by symptoms of influenza. White, female. Sod. salicyl., etc. Atrop., cocain, and adrenalin locally. Hot stupes. In another case, very frequent attacks recurring for years, sometimes in one eye and at other times in the other. Intense ciliary zone; patches of interstitial corneal opacity and general haziness; once or twice delicate iris synechiæ; violent attack of sciatica. No syphilis, but some gonorrhea in early life. Father had gout. Salicylates, mercury, iodid, pilocarpin, hot stupes and atropia. Recovery with slight opacity; good vision; possibly gout.

T. Y. SUTPHEN, Newark, N. J.: I only recall the hazy cornea or rheumatic iritis with Descemetitis.

H. F. HANSELL, Philadelphia: I do not remember that I have ever seen a case of keratitis—primary—that I could attribute to rheumatism. A bad case of "sclerosing keratitis" involving both eyes and leading to extensive changes in the curve and transparency of the cornea, occurring in a young woman might have been due to rheumatism. Numerous cases, familiar to us all, of rheumatic iritis with deposits in Descemet's membrane and subsequent keratitis, are of course met with.

J. A. WHITE, Richmond, Va.: I have never seen a case of keratitis that I could positively state was due to rheumatic or gouty causes, but I have had keratitis in rheumatic patients that was very intractable to treatment, especially Descemetitis. I have always thought that a rheumatic diathesis had something to do with this trouble, just as it is supposed to have something to do with iritis, because if we can have pathologic changes in the iris due to rheumatism we can also have it in this part of the cornea, because it is a practical continuation of the uveal layer of the eye.

C. W. HAWLEY, Chicago: I have had several cases, but can not give definite symptoms, etc.

H. FRIEDENWALD, Baltimore: Barring the cases of interstitial keratitis, sclerotizing keratitis, etc., which were in an indefinite manner ascribed to "chronic rheumatic diathesis," I have had no experience which leads me to think that rheumatism (i. e., acute articular rheumatism) has any bearing on corneal disease.

J. H. BUCKNER, Cincinnati: Only when associated with iritis, more than one attack; iritis has been present in every case, I now remember; female; white. Treatment, sodium salicylate and colchicum; locally atropin, four-grain solution, three or four times daily. I only recall one case in which keratitis existed central over the pupil associated with rheumatic iritis. The case was a sister of charity about 40 years of age. I may have had other cases, but have no record of them.

WILLIAM CHEATHAM, Louisville, Ky.: Yes, I am rarely without one or two cases of keratitis with rheumatism on hand. They are parenchymatous, with scleritis or secondary to it. Usually peripheral, it extends as far as the center of cornea. It tends to relapse. It is complicated by involvement of the muscular sheaths or Tenon's capsule, and rheumatism in other parts of the body. Patients were mostly females from 15 to 25 years. Local treatment, atropin and subconjunctival injections and antirheumatics. Treatment at mineral springs has proved helpful.

S. THEOBALD, Baltimore: The cases of keratitis probably de-

9. Journ. A. M. A., January 24, 1903.

pendent on rheumatic diathesis, that I recall, were of the "profunda type," and usually were not examples of pure keratitis, but rather of "sclero-keratitis," the more intense inflammtaory changes being magnified. I have observed recurrent attacks. There was little tendency to ulceration. The attacks were obstinate, and permanent corneal opacities were not infrequently left. Potass. iodid., iodid of iron and sodium salicylate, with atropin locally, were the remedies which I have found most useful. My impression is that the majority of cases were white women.

H. D. BRUNS, New Orleans: Only one case of rheumatic episcleritis, with usual corneal opacities opposite the points of scleral infiltration. These areas seem to undergo sclerosis. Permanent nebulæ were left, which greatly impaired vision.

J. L. THOMPSON, Indianapolis: I have had no case which I could call rheumatic disease of the cornea. I have had many cases in women who have scleritis extending subsequently well over the outer margin of the cornea, who have been troubled with rheumatism, and have sometimes benefited them with iodid and the salicylates; have often had to make an iridectomy, and not infrequently had to enucleate the eyeball.

E. A. SHUMWAY, Philadelphia: I have seen no primary lesion of the cornea which I could attribute to rheumatism. I have seen several cases of so-called sclerotizing keratitis, secondary to episcleritis, in which the etiology pointed to rheumatism.

CHARLES E. RIDER, Rochester, N. Y.: For many years I was in position to know my father's practice and opinion, and I think he would agree with me that with the exception of the corneal lesion of advanced scleritis, no cases of corneal disease from rheumatism are observed hereabouts. Under this head might be considered the corneal congestion, which, I think, I have observed, rarely, namely, after a serous iritis which at times I know is of rheumatic origin; the deposit on Descemet's membrane does not seem to be completely absorbed, or, absorbing leaves the tissue somewhat hazy, suggesting structural changes in the cornea itself, after being the resting place of the exudate from the posterior chamber. I have observed this a long time after the attack.

A. E. PRINCE, Springfield, Ill.: I have had frequent cases of rheumatic iritis with corneal involvement, but nothing I regard as specific rheumatic keratitis *per se*.

EUGENE SMITH, Detroit: I have only seen corneal disease of a supposed rheumatic character as secondary to episcleritis or scleritis, and in the form of leucoma of the periphery.

R. J. MCKAY, Wilmington, Del.: Have seen cases of iritis complicated with corneal disease; used the mixed treatment with satisfactory results.

F. BULLER, Montreal, Canada: I look on so-called sclero-keratitis as due to some constitutional condition of rheumatism or strumous diastasis in the same individual in all or nearly all such cases. Further than this, I have not seen and do not know of any form of inflammation involving the cornea which can positively be traced to rheumatism as a constitutional cause.

A. J. ERWIN, Mansfield, O.: Have no recollection of any case of corneitis which I thought due to rheumatism, except as a complication of rheumatic iritis or scleritis.

H. V. WÜRDEMANN, Milwaukee, Wis.: The part of the cornea attacked is the periphery, usually many attacks, only seen as complication of scleritis or episcleritis. Patients, white, males and females, thirty-five to sixty years old; sodium salicylate, oil wintergreen: diet, mineral waters, general and local massage. Locally atropin, dionin, sodium chlorid by subconjunctival injections, were the most helpful treatment.

PRIMARY KERATITIS IN INDEFINITE RHEUMATISM.

C. A. VEASEY, Philadelphia: I have seen a few cases of interstitial keratitis that gave only rheumatic histories, and that recovered under antirheumatic remedies, that I have always believed to have been produced by that poison; but of course I realize that it is impossible to state positively that this is true. Excepting the cases of interstitial keratitis referred to, I can only recall one other corneal affection thought to be due to rheumatism, and that was a case greatly resembling malignant growth, in a middle-aged woman, which, for a time, it was thought would have to be operated on, but which finally cleared under antirheumatic remedies.

C. M. CULVER, Albany, N. Y.: Yes; can not give figures; not very many; different parts; apt to be Descemet's membrane; a tree-like form of inflammation; several attacks—can't give figures, several; usual symptoms of rheumatism; males and females; white, thirty to fifty. I recall an engineer, a towman and a lawyer. Baths, pilocarpin, atropin and general treatment of rheumatism.

E. W. BARTLETT, Milwaukee, Wis.: I have seen six or more cases of corneal disease occurring with rheumatism. These showed nothing different from other cases in bad health. Male, white. Atropin and a bandage. Treatment for rheumatism was followed chiefly.

H. B. ELLIS, Los Angeles, Cal.: I have had but one case which I can place at the present time, that might come under your query. A boy of 17 came to me two years ago with slight haziness of the cornea, which in a few days developed into a marked case of interstitial keratitis. I have known the father and mother for twenty years, and they are both healthy robust people and give absolutely no specific history, and the boy has no marks of inherited trouble, but he did not have, prior to my seeing him, a mild attack of muscular rheumatism and has been bothered some ever since, so that he has gone to mud baths two or three times in the past year. Both corneæ are still very cloudy. Rheumatism was the only thing that I could find as a causative factor in this case.

A. BARKAN, San Francisco: Yes, I have seen rheumatism cause keratitis in three cases characterized by a band-like brown, deep-seated opacity along the horizontal meridian. Antirheumatic treatment.

D. E. WELSH, Grand Rapids, Mich.: I have seen a number of cases of keratitis caused by rheumatism; not localized, but general; characterized by a general haziness of the cornea, followed by slight ulcerations of the cornea, several in number; when present, severe pain, photophobia. Several recurring attacks. No complications, except episcleral involvement and association with myalgic pain. Females, white. Large doses of soda salicylate and potass. iodid; iodosyl 3 per cent. ungt. I attribute these to rheumatic diathesis, viz., corneal haziness, pain, photophobia and lachrymation; slight ulceration at different points of the cornea away from sclero corneal junction; pannus would develop, later a severe episcleritis in conjunction with a severe myalgia confined more especially to the superior extremities.

ALBERT E. BULSON, Jr., Fort Wayne, Ind.: For some time I have recognized a peculiar form of corneal disturbance which has been benefited by antirheumatic treatment. Most of the cases exhibited a nebulous infiltration of interstitial character. There was no marked vascular disturbance. Rheumatism was suspected from soreness of the extrinsic eye muscles on movement of the eyeball. This class of cases were happily treated by large doses of sodium salicylate. In these cases other local or constitutional causes were eliminated. I have also seen corneal disease associated with iritis, scleritis and episcleritis, but am not sure whether this was due to the rheumatism.

M. D. STEVENSON, Akron, Ohio: I can recall five cases of corneal disease caused by rheumatism. The superficial part of the cornea was involved and associated with scleritis or episcleritis, chronic in course, occurring in persons with rheumatic history. One case had two attacks and one iritis. Treatment was large doses of sodium salicylate, with large doses of water, and dry heat locally.

W. MITTENDORF, New York: Yes, I have seen cases of corneal disease caused by rheumatism; usually the superficial layers were attacked; characteristic features were its being more or less superficial and frequently vascular; several attacks, usually young adults; treatment salicylates internally and usual local medication. N. B.—These cases differ entirely from those known as punctate keratitis, which are attributed to rheumatism.

F. C. HEATH, Indianapolis: Have seen cases, but can only distinctly recall one. The superficial layers were involved, one eye central and the other peripheral. The keratitis, much like phlyctenular ulcers, but rather deeper and covered more surface than the average ulcer of that form. The case had four attacks, and was complicated with blepharitis. Male, white, aged 55, editorial writer on a daily newspaper. Sodium salicylate internally; atropin and yellow oxid mercury locally; results, a slight scar, central, dimming vision of right eye. I have had a recent case of scleritis (at first episcleritis) rather severe and protracted with corneal infiltrations that temporarily clouded the vision a great deal, but ultimately cleared up under salicylates internally, and atropin and hot applications locally.

L. STRICKER, Cincinnati: I have seen two cases of corneal disease caused by rheumatism. There was superficial denudation. Punctate denudation of the epithelium, and exceedingly profuse; more or less scleral corneal injection, great pain and photophobia. Have observed four attacks in same case. Complicated with cyclitis and irido-cyclitis; white, male and female. Treatment, soda salicylate; recovery perfect.

G. E. DE SCHWEINITZ, Philadelphia: Certainly, I have seen a number of cases of corneal disease attributed to rheumatism. I have a description of them, especially the variety of keratitis profunda, which was first described by Fuchs, in the last edition of my text-book, page 315, and it is my experience that these cases have always appeared either as a central parenchymatous infiltration, or sometimes as a circumscribed interstitial keratitis. I have also seen a few cases of keratitis profunda of the type described by W. T. Holmes Spicer in the January number of the Ophthalmic Review. In a number of his cases rheumatism, or rheumatic pain at least, was present in the patients. Some of my cases were associated with iritis, but otherwise I have not seen any complications. I do not know how many cases I have seen, but quite a number. One of the most marked cases that I have seen was in a prominent physician of this city. Regulation of diet, salicylates and other antirheumatic remedies, atropin, and in recent times dionin, have served me the best purpose. It seems to me that the term rheumatism is a very vague one, and I am not sure that it would be wise to adopt the term rheumatic keratitis, but certainly it is safe to say that very considerable number of cases of keratitis profunda, both general and circumscribed, occur in persons whose chief constitutional disorder appears to be some type of rheumatism.

D. B. CORNELL, Saginaw, Mich.: Yes, I have seen cases of keratitis from rheumatism. They involved the parenchyma of the cornea, and were more circumscribed than when due to syphilis. One case had two attacks. The complications were like those observed in other constitutional diseases. Patients were both sexes, white, and ranged from 12 to 30 years of age. The constitutional treatment was soda salicylate; salicin, potatss. iodid and vin colchici.

CHAS. S. BULL, New York: Yes, I have seen keratitis caused by rheumatism, but I do not know how many cases. The parenchyma was involved. Most marked characteristics were the extreme chronicity of the trouble and the tendency to relapse. The case had two or more attacks and were complicated with iritis. Cases were both sexes, white, most over thirty years of age. Local treatment was atropin, hot fomentations, cocain, dark glasses. Persistent use of alkaline remedies internally, especially sodium salicylate. These cases of mine were observed in the course of rheumatic attacks. They were obstinate in resisting treatment and relapsed more than once. The majority were cured after persistent treatment, leaving a clear cornea, though in a number of them the posterior synechia remained.

E. E. GIBBONS, Baltimore: Yes I have seen eight or ten cases of keratitis caused by rheumatism: attacked the deep layers of the substantia propria. The infiltrate seemed to be punctate and discrete and the subjective symptoms severe for the amount of cornea involved. The opacities usually affect the central portions of the cornea. One had two attacks in each eye. Iritis and scleritis were observed as complications. All but two were white men. The final results were good; all treated by soda salicylate and pilocarpin sweats with usual local treatment.

E. C. ELLETT, Memphis, Tenn.: I have seen one case of corneal disease that I and another ophthalmologist supposed to be due to rheumatism as it occurred in a rheumatic boy, aged 20. He had two attacks in less than a year and has had no more. The attack was acute: the cornea showed a fine sandy appearance, without opacity, and the process ran its course in a week, leaving no permanent results. He was treated with atropin, hot compresses and lithia. I am not sure that this was rheumatic, but I have never seen any other corneal disease that I suspected of being of this character.

L. A. W. ALLEMAN, Brooklyn: If I understand you as asking for cases of corneal disease due to true rheumatism I must say "No." But if you have in mind those ill-defined disturbances of nutrition which are often attended by pain and soreness in the joints and muscles, I have seen many cases. They are, as a rule, marginal keratitis, with much pain and photophobia, subject to frequent relapses, not as a rule attended with serious complications, and best

controlled by general antirheumatic treatment, regulation of diet, etc. Eserin has given the best results locally.

L. H. TAYLOR, Wilkesbarre, Pa.: At the time I received your letter I was called to see a patient at her home, with a severe suppurating ulcer of the cornea. The patient could not come to my office because she was in bed with rheumatism. She had in the left eye an annular ulcer extending entirely around the edge of the cornea beginning at the sclero-corneal margin. I have seen a number of cases of corneal trouble in people who were at the same time suffering with rheumatism, but I could not say that the rheumatism caused the keratitis. Last summer I attended a physician who had a bad case of sloughing cornea. He also had rheumatism, but I did not regard the latter as the cause of the former.

C. A. OLIVER, Philadelphia: Yes, barometric in exacerbation; much adjacent swelling; the periphery of the cornea attacked; young, white, adult, male. Treatment: salicylates and heat.

S. C. AYERS, Cincinnati: Yes, peripheral portion, near margin. Generally sluggish, indolent, more than one. Pain and photophobia. White; females, generally 30 to 40. Treatment: scraping floor of ulcer and using 25 per cent. argyrol, atropin when necessary.

W. H. WILMER, Washington, D. C.: Yes. In a few cases superficial ulcers near margin. Most cases substantia propria. In some cases ring-like involvements of cornea; in most cases a seeming extension of the scleritis into the interstitial portion of the cornea. Several attacks; complications; scleritis, iritis, cyclitis, uveitis. White; black; male; female. Treatment: internally, potass. iodid. and salicylate of lithia, pilocarpin injected into the temple, salicyl. of lithia subconjunctivally injected. Hot applications. Good results. In my experience, rheumatic diseases of the cornea are rare, but do exist.

E. E. JACK, Boston: Yes (?), near limbus; lower half; small roundish, shallow ulceration, infiltrated; two to three attacks. Male, 40 years, physician. Treatment, pilocarpin and cocain only treatment tried. Well each attack in two or three days. The doctor, after two attacks, decided that the attacks came when he had too much uric acid and always got better with an elimination of this. He had other symptoms of this condition. I put a (?) after the first answer, as I do not know whether you wish to class this as rheumatic.

FRANK C. TODD, Minneapolis: Yes, I believe I have seen keratitis caused by rheumatism. I have had cases in which the epithelium has been involved, which, I believe, were of rheumatic origin. Any portion of the cornea may be involved, but I regard as most characteristic that form which occurs in conjunction with and as a portion of uveitis in which the posterior limiting membrane is involved. Such cases are subject to recurrences. Cases involving the substantia propria and endothelium I have considered rheumatic. Both male and female, white. Treatment, large doses of soda salicylate, following Gifford's method.

E. E. HOLT, Portland, Me.; Yes, a number. Corneal substance proper attacked. In some instances not much of any acute inflammation present. Several attacks, leaving opacities; both male and female. Antirheumatic treatment used, salicylate of soda, mercury, iodids, arsenic, hot baths, massage, electricity.

J. M. RAY, Louisville, Ky.: I have for a number of years classed many of the cases of scleritis with frequent relapses that eventually invade the cornea, producing the so-called sclero-keratitis as due to rheumatism. I think I have seen this condition start primarily in the clear cornea close to the periphery and follow the same clinical course as those that had their origin, primarily, in the sclera. I can find in my records one case of this kind, in which, at the interval of three years, each eye was separately involved. The first eye was iridectomized by a colleague. The second eye was improved by subconjunctival injections. The latter treatment, along with antirheumatics, is, I believe, the best treatment of sclero-keratitis. I am sure I have seen several cases of the kind I describe, but can not find their records.

S. D. RISLEY, Philadelphia: I am at a loss how to answer. While I have many cases of scleritis and episcleritis, apparently due to the rheumatic diathesis, I can not recall a single instance of corneal disease which I ascribed to rheumatism. The only exception to this statement may be the case of a man, at least seventy years of age, from whose cornea, at the site usually occupied by the arcus senilis, I scraped a large deposit of a chalk-like material, which chemically gave the calcium reaction.

HIRAM WOODS, Baltimore: I think there is a corneal disease caused by rheumatism. The characteristic features are small central area of deep infiltration. In one case only a small spot was observed down and out. In the others all the cornea eventually clouded. Only one case had more than one attack. The cases were white, two female, one male, aged 22, 18 and 15. No joint involvement in any case. All had a rheumatic history. Salicylate of soda controlled the inflammation. I have seen two or three cases in children of deep keratitis (syphilis and tuberculosis were definitely excluded). Rheumatic and gouty condition were family traits. Soda salicylate was given because of its ability to control the inflammation and the family history. There was benefit from this treatment, but the cases were obstinate; one was complicated by secondary iritis-cyclitis; at least the central lesion antedated the other. The entire cornea was involved.

ROBERT W. MILLER, Los Angeles, Cal.: I have observed cases in which the rheumatic and gouty constitutions of patients suffering from keratitis, occupying a causative relation and in some instances militating strongly against recovery. The forms in which I have noted this relation has been the deep central keratitis and phlyctenular keratitis when the latter occurs in adults or the middle-aged.

91 Lafayette Ave.

DISCUSSION.

DR. W. H. SNYDER, Toledo, Ohio, reported two cases and said that he had never been satisfied of the existence of the condition until he saw these two cases. He thought that these could be safely classified as due to the constitutional effect of rheumatism on the cornea.

CASE 1.—T. D., aged 7 years, height 4 feet 1 inch, weight 46 pounds, was seen in consultation with another ophthalmologist because of the stubbornness of a corneal inflammation which had resisted all treatment. He has had eye trouble for one year. Eyes very suddenly get very red and inflamed. Pain through the day very much. First one is inflamed and then the other. Three weeks ago the left eye got very red and inflamed. Vision, right, 20/40; left, light perception. The conjunctiva of the right eye is very red and inflamed on the whole nasal side of the globe. The cornea is normal at present and there is no pain. On the left side the whole eye is very red, swollen and painful. On the lower, outer half of the cornea is a large disc of opacity covering the pupil, which seems opaque through all the layers of the cornea. Photophobia is moderate. His physical condition is anemic, poor; eats meat only; subject to diarrhea. Had inflammatory rheumatism two years ago. Pulse sitting is 90; standing, 110; after moderate exercise, 120. Heart sounds show mitral insufficiency. Anti-rheumatic remedies added to his old treatment, with attention to diet brought about a quick and permanent recovery. His physician had been unable to reduce pain or redness at all until the latter treatment was added.

CASE 2.—C. S., aged 17, very small for his age and thin. Three weeks before his left eye had suddenly become red and inflamed, which attacks he had had many times in the last two years. No treatment had been of any service. Vision: Right, 20/20; left, poor light perception. All of the cornea of his left eye was hazy and through all the layers a disc of marked opacity in the center of the cornea. Outside of this the cornea was covered with white dots looking like pinpricks in gelatin. The whole cornea became steamy first; in twenty four hours this condition came on. The disc seems like chalk embedded in the cornea. He had been subject to inflammatory rheumatism since a child and heart was affected (mitral murmurs). No treatment had been of avail. From his prescriptions one of atropin was chosen and anti-rheumatic treatment added and in four days the redness had all left the eye. He returned to work at once, being very poor, and has had two or three attacks since, all controlled, however, by the same treatment.

DR. LEARTUS CONNOR said that as far back as the time of Wharton Jones the influence of rheumatism was much more prominent than at the present time and their observations were no doubt as good as those of the present. Dr. Connor said that he had overlooked many of these cases in days gone by and he thought others might have done the same. Dr. Bull of New York, reports a number of cases that he believed due to rheumatism, while Dr. Knapp, of the same city, had never seen any, showing, perhaps, that one man's mind was on the subject and the other's was not. Such brilliant results come from operations and local treatment that the cause of some of these conditions is apt to be overlooked.

BLASTING EYE INJURIES.*

JOHN A. DONOVAN, M.D.

BUTTE, MONT.

"Frenzied Finance," pro and con, of late has so filled the air that to many the question arises: Does mining really exist? With all her disadvantages, Butte still demonstrates mining as a reality. With her annual production of 250,000,000 pounds of copper, not to mention her silver and gold, her many miles of underground tunnels extending nearly half a mile below the surface, and her thousands of miners using tons of powder daily, Butte offers for our study a subject worthy of consideration.

Eissler[1] says:

In no department of human industry has more rapid progress been made of late years than in explosives. The ablest chemists and the best engineers have found in the study of

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Handbook on Modern Explosives.

more especially to the superior extremities.

lapses, not as a rule attended with serious complications, and best

explosives a fruitful field, and the results of their labors are to be seen in the perfected explosives of to-day—explosives which are marvels of chemical perfection; which are so modified and varied in their method of action as to be adapted to all varieties of practical work; and which, with all their enormous power stored up in their particles, are so completely under control that they may be handled freely in any class of work with perfect safety, when in the hands of careful and experienced operators.

Blasting is becoming so common, owing to construction of underground roads, canals, etc., that I will describe briefly how accidents occur. A mine is entered, probably by a perpendicular shaft; from this, say at each 100 feet, runs a tunnel of sufficient size for two men to work comfortably in without stooping. From these various other tunnels and drifts are run. All are extended by drilling usually five shot holes, one near each corner and one in the center. In these holes, giant powder is put, say one and one-half or more sticks, a stick or cartridge being approximately one inch in diameter by eight inches long, weighing about a pound and containing, say, 40 per cent. nitroglycerin mixed in some absorbent, chemical, mechanical, or both. The percentage may vary, according to the nature of the work to be done. The first half stick, more or less, is packed in the bottom with a wooden tamping stick. Then a detonating copper cap, containing a very high explosive and being quite sensitive, is attached to a long fuse and fastened; this is then pushed into the end of the last cartridge and fastened. The cap being very easily exploded, this piece is pushed in with much care. All then is snugly packed and tamped. Each hole is loaded in like manner; each has a long fuse attached, which burns at the rate of about 2 feet a minute. These fuses are lit with a candle. When all are ignited, the longest one first and the rest in like order, the men run away, count the explosions, then return.

In selecting a powder for safety it should respond to the following conditions: Safety against fire and high temperatures; against friction, jars and shocks; against percussion, concussion and tamping; against leakage or liquefaction.

CAUSES OF ACCIDENT.

1. Careless handling of powder; it may drop or catch fire from candle or pipe; it may or may not explode. Thawing powder too near a fire; keeping it too near electric conductor terminals, etc.

2. Carelessly packing it with a jam into the hole.

3. Packing with a metal tamping rod instead of with wood, the iron in contact with the rock causing sparks.

4. Carelessness with the caps, which are highly explosive—cigar ashes, hot candle grease, or a little jar or concussion may explode the box.

5. Fuse cut too short or the short one lit first by mistake or an unusual delay in lighting one after some have been lit.

6. Error in counting blasts and man returning before last has exploded.

7. Missed hole—one in which fuse burned but powder did not explode, and the new men coming on shift unknowingly pick into it, causing an explosion.

8. Faulty or frozen powder—several pieces in a hole and some fail to explode, the pick later sets it off. At the present time, a patient is under my care who lost one eye from this cause. Many miners deny the possibility of such an accident, but it does occur.

9. Caps left where children find and explode them accidentally or otherwise. This is the most frequent cause of children's injuries. It is probably with these cases that the oculist has most to deal.

With all the crimes of corporations, these accidents can seldom be placed at their door, but are, with few exceptions, due to carelessness, which too often is not the direct fault of the victim, but of his fellow-workmen. Be it said to their credit, however, in the handling of tons of powder and among thousands of men, often many weeks may pass without a serious accident from this cause.

This paper refers especially to high explosives, such as nitroglycerin, which have a shattering effect, thus being much more dangerous to the eye than the low explosives, such as gunpowder, which have a rendering effect and are more generally used in coal mining and softer work.

THE IMMEDIATE EFFECTS.

One man may be blown to pieces and the other left living but literally filled with rock; in any event, there has probably been much damage done. He is first treated by the mining surgeon, who in many cases despairs of life. The grosser injuries are dressed and he is, or should be, put to bed till he recovers from the shock. By this time the eyes are so swollen a thorough examination is impossible. Here I will caution those who see these cases months later to remember this description when they criticise the man who first attended for his neglect of the case. Such criticism occurs too frequently and great injustice is done the local surgeon, who probably handled the patient in such circumstances better than his critic could have done. If it were not for legal complications that may arise, when the injury is so extensive as to make saving the eye impossible, enucleations should be done as soon as patients condition permits. Since we all see eyes with good sight where enucleation has been advised, however, it should never be done early, except when no possibility of a doubt exists.

Every piece of rock easily removed should be taken out at once, but, as a rule, when there are many, the smaller pieces not easily distinguished can be removed as the days go by, as each becomes manifest. It is safer to leave them alone than at this time to set up the reaction sure to follow the prolonged operation necessary to remove them all. Early and frequent use of atropin, unless contraindicated, should not be neglected. Because a complete perforation exists, a foreign body is not necessarily in the eye; finding no perforation, however, does not always exclude the possibility of its existence.

CASE 1.—A boy, aged 10 years, exploded a cap with a stone. I removed several pieces of brass from the cornea and found the sclera completely perforated. A probe entered the vitreous then opaque; in three days, the vitreous was clear; the opthalmoscope showed a black streak in from the wound about 5 mm. long; otherwise no spots. I entered the wound with iris forceps, using the ophthalmoscope, and caught the body. I extracted it and found it a thread of retina driven in. Three years have now passed and the eye is in normal condition. A sharp piece had cut through and fallen out.

If a body is embedded in the iris and is seen early remove it at once; otherwise, while inflammation is severe, you may await a more favorable opportunity. In one case in which confirmation of my suspicion was impossible and one eye had already been enucleated, local suppuration resulted eight weeks after the injury; I then opened the cornea and easily extracted the piece of brass from the iris, cauterized the edge of the wound, and the active symptoms at once subsided. In fact, suppuration around a piece of cap anywhere nearly always subsides

immediately on its removal. Pieces under the conjunctiva not producing trouble, which have not been found and removed at once, may safely be left until some local irritation is produced. Yet, there is always a possibility of indirect pressure on the globe if these are large.

CASE 2.—A young man lost one eye by explosion of caps; the other had good vision, which after several months began to fail. A small detachment of retina just behind the iris at the inner side, and vitreous opacities were perceptible. Vision slowly failed. During three months in New York he became blind. On his return, I resumed the use of tonics internally and sedatives locally. He regained some vision. Three years after this injury, a piece of cap presented at the lower punctum and was removed with difficulty, being many times the size I anticipated. A local irritation of the conjunctiva at this point always existed, resembling pterygium somewhat.

There is no doubt that this irritation produced the detachment, yet neither of his surgeons or the three oculists consulted ever suspected its presence during these years.

PROGNOSIS.

The prognosis in every case of blasting is uncertain. A change in nutrition is apparently set up, not becoming manifest for months or years, e. g., in Case 1 the detachment of the retina was not suspected for nearly six months. Vitreous opacities or choroidal atrophy may not be discovered for years. Fortunately, these spots frequently remain stationary. In a boy, 10 years old, from whom I removed a cataract five years after an explosion, the good eye had several atrophic spots in the choroid. Six years have elapsed with no further change.

Cataract is a very frequent late complication. For these patients advice is often only sought provided one eye has been lost. Cataract comes on after a few months or years, becoming complete in time; in my experience, this has been the case in young people. So far, in those in whom I have removed the cataract, the eye was free from other diseases. I know of no one requiring early operation if any hope is offered, as a miner with one eye lost and the other blind from some form of occlusion. These men frequently go from one oculist to another begging for an operation, and, unfortunately, they usually get it. From the very urgent need for such operation, we must advocate the urgent need of patience. We too frequently see eyes hopelessly lost that might have been useful had the operator waited for the subsidence of all inflammation. The danger of radical interference simply to restore vision in an eye not absolutely quiescent has never been over-accentuated, and in these cases can never be.

CONCLUSIONS.

1. With but few exceptions, blasting injuries result from want of care on the part of the patient, his associates or his predecessors at work.

2. In careful hands and with those familiar with the dangers, these accidents should not occur.

3. The eyes should be examined immediately, the larger foreign bodies removed, conditions noted, atropin used, and subsidence of general reaction awaited.

4. When reaction subsides, remove particles as symptoms indicate, provided it is not practical to remove all at once.

5. Foreign bodies inside the eye would better be removed as soon as located.

6. In children, general anesthesia is safer if specks are deeply embedded.

7. Careful ophthalmoscopic examination of each eye should be made early and a favorable prognosis should always be guarded. The shattering effect of high explosives produces deep internal changes.

8. Never operate simply to restore vision till every inflammatory sign has disappeared and all active changes have ceased; better wait even a few years.

9. Be careful in criticising the former attendant (if criticising must be done) till every detail of the history and circumstances have been understood.

10. Do nothing and say nothing in these cases unless willing to substantiate it in the courts. Careless remarks encourage the patient into litigation, and, no matter what the immediate result, experience has shown the ultimate consequences to be disastrous.

SOME EYE INJURIES AND THEIR LESSONS.*

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Eye injuries present such an infinite number of possibilities, so many differences in course, extent, symptoms and complications, that while we may derive some valuable points from experience and may lay down rules and principles applicable to many conditions, still each serious eye injury is largely a rule to itself and offers an interesting field for study. I desire to present, briefly, three groups of three cases each, representing three serious forms of injury worthy of our attention. The first group comprises cases of foreign bodies in the lens; the second, foreign bodies in the iris; the third, wounds in or near the ciliary region.

GROUP 1: FOREIGN BODIES IN THE CRYSTALLINE LENS.

CASE 1.—W. B. consulted me Octotber 13, 1894, with history of injury to right eye by a guncap nine years before.

Examination.—This showed traumatic cataract with piece of cap in the lens. R. V. = Light only. L. V. = 20/20, with no symptoms of disturbance at any time. The inflammation in the right eye had subsided soon after the injury and given no trouble until shortly before he consulted me. There were now ciliary congestion, pain and tenderness. Atropin and hot applications gave relief for a time, He was advised to have the eye removed, if this trouble persisted long in spite of the treatment. Other local eye surgeons gave similar advice, but he decided to see Dr. H. D. Noyes of New York, who had treated the original injury. He reported later that Dr. Noyes attempted to extract the lens with the foreign body, which fell down into the vitreous and had to be "fished out," as he expressed it; that he was in the hospital for two months, hot water being freely used, eyeball saved with no vision, pupil obliterated. Since that time he has had no trouble.

CASE 2.—W. C. had been blind in the left eye for twenty years from foreign body, in the lens, apparently a small piece of iron, the lens being opaque. As this was quiescent I advised against interference. Inflammation arising a year or so later, the eye was removed by one of my colleagues.

CASE 3.—J. R., employe in the Atlas Engine Works, was injured in June, 1902, by a piece of steel from a drift pin entering the right eye and lodging in the lens. Sight was gradually lost in this eye until after a few weeks, perception of light only remained. Inflammation subsided quickly under atropin. The pupil, he says, became white. This condition remained quiescent over two years, but a few months before coming to me, November 22, 1904, he noticed the whiteness disappearing from the pupil and for two weeks the

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left eye had been watering, showing symptoms of tiring when he tried to read, with very slight pain.

Examination.—It was evident that the lens of the right eye had become absorbed, the pupil being black, the iris tremulous, the fundus seen best with + 12 D. sph., with floating bodies in the vitreous, choroidal inflammation, vision remaining at perception of light only. The pupil was irregular and the iris muddy. A small corneal opacity showed where the steel entered the eye.

Treatment.—Prompt enucleation was advised and accepted two days later. The ball was opened after removal and the steel not found until examination was made of the choroid and the retina stripped off, the ball being apparently in the former. The symptoms of irritation in the left eye immediately subsided.

These cases show that, while a foreign body may remain quiet in the lens for years—in these 9, 20 and 2 years, respectively—no certainty exists, they are still in danger and should be kept under observation. The question arises, Should we follow the plan pursued by Dr. Noyes in Case 1, in trying to remove the lens and to save the ball, even if the metal falls into the vitreous and great reaction attends the efforts to extract it? Did he not run much risk of sympathetic ophthalmia? This procedure is advised by some authorities, resort to the magnet being made if the metal falls into the vitreous. It would seem to be all right in some cases, but, if marked reaction resulted and failed to subside promptly, would it not be safer to enucleate within a short time rather than try for weeks to save a blind eyeball, suffering from violent iridocyclitis? While the result seems to justify the procedure in this instance, would we not naturally expect trouble when, as in Cases 1 and 2, the metal has been in the eye a long time, has caused liquefaction in the lens and is already setting up inflammation? The safest course in such conditions would seem to be enucleated, as advised in Case 1 and accepted in Case 2, reserving the attempts to remove the lens and foreign body with preservation of the ball for those cases in which the metal has not been in the eye long enough to set up trouble.

In Case 3, with symptoms of sympathetic irritation present, enucleation was certainly the best procedure, the lens being absorbed, the eye blind from fundus lesions, and an attempt to remove the steel with a magnet being unadvisable.

GROUP 2: FOREIGN BODIES IN THE IRIS.

CASE 1.—P. E. H., Lafayette, Ind., was reaming a tire on a locomotive in 1864, when a piece of steel about 2 mm. long penetrated the cornea of his right eye, lodging in the iris midway between the pupil and the outer margin. The irritation subsided in four weeks with no subsequent trouble save one attack of inflammation, twenty-two years later, which lasted a week.

Examination.—When I saw him in June, 1891, there was a well-marked iritis, which yielded to atropin, leeches and hot applications in two weeks with normal vision.

Subsequent History.—A more severe attack arising nine months afterward with symptoms of sympathetic irritation in the other eye, as I had removed to Indianapolis, he went to Dr. Keiper, who extracted the steel with iris forceps, fearing to employ the magnet when he found the metal so firmly embedded. Perfect vision resulted in both eyes.

CASE 2.—O. H., employed at the Atlas Engine Works, was sent to me with slight irritation of the right eye.

Examination.—Careful examination revealed a small particle of iron in the iris, a little nearer the pupil than the outer margin.

Treatment.—An attempt was made to remove this with a Hirschberg magnet inserted through a small corneal incision to the outer side, but, this failing, we feared to protract our efforts, this being the only eye the patient had, also I had been compelled to enucleate the other a year previously on account of an infected wound in the ciliary region.

Result.—All reaction soon subsided under rest and atropin (in the eye with the small foreign body), and there has been no trouble since, more than a year having elapsed.

CASE 3.—J. B. was referred to me from Winchester in November, 1901, with a piece of steel in the iris of the right eye. My magnet was not in working order.

Treatment.—Enlarging the entrance wound in the corneal margin, I inserted iris forceps and tried to remove the metal, but failed. Dr. T. B. Noble, who was assisting me, suggested that I make another incision at right angles to the first toward the foreign body—a suggestion I saw made by a Pennsylvania surgeon shortly after in the *Pennsylvania Medical Journal.* This being done, we prolapsed the iris containing the steel, worked the metal carefully out of the meshes of the tissue, in which it was firmly entangled, replaced the iris, put on sterile dressings and sent patient to Dr. Chenoweth of Winchester with directions to use a boric acid solution and hot applications, adding atropin as soon as the corneal wound closed. He reported prompt recovery with vision but one line less than the other eye.

The first case of this group is remarkable in showing that the iris could tolerate the steel so long—27 years—with so little disturbance and without damage to sight. Yet, at the last, without prompt action, it might have caused blindness in both eyes. The iris, then, is very tolerant of foreign bodies, but their presence, nevertheless, is a source of danger, and such patients should be under skilled observation.

The conservative course in the second case seems to have been wise on account of the loss of the other eye and the small size and favorable location of the metal.

The unusual procedure in Case 3 would naturally be objected to by the eye surgeon from fear of an ugly corneal scar, but this proved smaller than was anticipated, and the crucial incision facilitated the operation greatly on account of the shape and size of the chip. The reaction was slight. A magnet could not well have been used here; the iron was so firmly entangled in the iris.

GROUP 3: WOUNDS IN OR NEAR THE CILIARY REGION.

CASE 1.—Miss. R., a demi-monde of Marion, came to my office September 10, 1902, with right eye badly cut by a piece of glass from the bursting of a beer bottle. The cut extended from near the center of the cornea to the very outer margin, with a large prolapse of the iris.

Treatment.—The patient was put under a general anesthetic and the prolapse was partly excised and partly replaced, the operation being done with careful aseptic precautions.

Result.—Healing took place very rapidly and she left the hospital in a few days with good vision and free from pain.

CASE 2.—E. D., employed at Atlas Engine Works, was injured December 10, 1902, by a chip from a hammer, which made a small punctured wound in the left eye, in the sclera not far from the outer corneal margin and quite low down. The steel was pulled out by another employe.

Examination.—When seen by me an hour later, the small scleral opening was visible and the anterior chamber was so full of blood that vision was abolished and the iris could not be seen.

Treatment.—After washing the eye with a weak bichlorid of mercury solution, I applied a sterile dressing, advising cold applications, and giving him the bichlorid (1 to 10000) for home use. The next day he returned, the blood had been all absorbed and the vision was fairly good, but there was a small prolapse of the iris. I urged him to go to the hospital where I could give him proper surgical attention and the wound could be kept clean. He was strongly advised to do this also by Dr. Dorsey, the company's surgeon, but he re-

fused, he was opposed to hospitals and surgery. Driven to a conservative course, I continued the antiseptic wash, changing from cold to hot applications. He came somewhat irregularly every two or three days until January 2, when the wound had healed with the iris adherent, but not projecting—the vision was then fair, the eye free from pain, with very slight redness and tenderness. He then remained away over a week, having been sick, returning January 10, with the eye more inflamed and the vision much reduced. Although I urged him to come back the next day, he did not and when I saw him again there was slight ciliary redness of the other eye. As soon as we could, we got him into the hospital, enucleated the injured eye, by this time practically blind, but, although the other eye had normal vision at the time of the operation, the redness was not the simple congestion sometimes seen in sympathetic irritation, but the commencement of a sympathetic inflammation, a serious iritis and cyclitis, which progressed very slowly to almost complete blindness.

CASE 3.—F. P., a colored lad of 19, in celebrating Washington's birthday (1904) met a friend with a razor, who cut his left eye, through the lids, and the sclera above, and to the outer side of the cornea.

Treatment and Result.—He reached the hospital shortly before midnight, and the interne, Dr. Roy Cook, a pupil of mine, unable to get me by telephone, stitched up the eye himself, putting three stitches in the sclera and two in each of the lids. This was done with ordinary dressing forceps, coarse silk, etc. A remarkable feature was the fact that the cut penetrated the sclera without cutting the choroid or ciliary body, which was deftly pushed back as the sclera was united without prolapse or loss of vitreous. This wound healed rapidly with slight reaction. I saw the patient the next day; I continued the cold applications and antiseptic wash, prescribed by Dr. Cook, changing later to hot applications, and adding atropin when the wound healed. I removed the stitches on the sixth day. When the patient left the hospital, he had good, but not perfect, vision, and the eye was free from pain or other signs of reaction.

The lessons from this group are these: Danger lies more in position than size of wound. In the first and third cases, the injuries were far more extensive than in the second, but in the first the ciliary region was not reached, and in the third the choroid and ciliary body escaped cutting, as it were, by a miracle, while the very small wound in the second was in the worst possible place, and it well illustrates the very great danger of a prolapse, however small, in this region. From the favorable results in other cases in which I have operated, I believe that patient would have had two good eyes today had he gone to the hospital and submitted to an iridectomy when I first urged it. Although the files of the *American Journal of Ophthalmology* contain a paper of mine on the conservative treatment of prolapse of the iris, citing a number of cases in which good results were obtained without surgical interference, I am persuaded that the safest course is to resort to prompt surgery, at least when the prolapse is in or near the ciliary region. In fact it is only in exceptional cases of prolapse and those seen rather late—I am speaking now of traumatic cases—that I would not be inclined to resort to prompt operation under proper aseptic or antiseptic precautions whether near the ciliary region or considerably within the corneal margin. I have never had cause to regret following such a line of procedure. The first case of this group is but an illustration that would stand for many like it. The last one is unique, and I had reason to feel proud of my pupil's promptness and readiness in meeting the emergency.

It is hoped that the fact that a magnet was used in only one of these nine cases, and then without success, will not be understood as argument against, or lack of appreciation of, what we must all agree to be one of the greatest and most beneficent acquisitions to eye surgery, but the cases here cited were purposely chosen outside of that field, in order to illustrate different modes of procedure and differences in the course and results of somewhat similar accidents, with lessons to be adduced therefrom. Of course, it is not claimed that these lessons are altogether new or that so small a number of illustrations prove much. They are presented rather because they are in a field where many points are still debatable and because they seemed to suggest what might serve as the basis for a profitable discussion.

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TRAUMATIC LESIONS OF THE EYE.*

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I do not purpose to burden an organization of this character with an exhaustive narration relative to this subject. I desire rather to present it only in a general way, for no paper of reasonable length can properly treat in detail a subject so varied and manifold.

The clinical pictures presented by traumatic lesions of the eye are practically without number. The diversity of structure and the still greater diversity of inflicting agents makes a complete catalogue of injuries to the eye impossible. Some one, who has taken the great pains to do so, has listed seventy different pathologic conditions of the eye and orbit due to bullet wounds alone.

These ocular traumatisms are becoming more frequent, for modern conditions, with the increase of mechanical appliances, rapid transit, etc., and the more general use of chemicals and gases, make their demands of the eye as well as of other parts of the body. The increase of knowledge among the laity also brings certain cases to us that a few years ago would have sought no relief. Never before has the value of vision been placed so high—never have the demands of perfect vision been so exacting. Therefore any effort directed toward the better handling of these cases is becoming and well worth while.

To list the traumatic agents would be to enumerate practically everything in the animal, vegetable and mineral kingdoms, in either their gaseous, liquid or solid form, sufficiently small to reach the part. The most absurd and impossible things have produced lesions of the eye. Neither age, condition or environment exempt an eye from possible harm. It has been injured even before birth by clumsily applied forceps during delivery.

The import of the injury depends more frequently on its location and extent than on the inflicting agent. Structures are rarely affected singly—two or more parts sharing the traumatism in different degrees and the tissues traversed by the agent are not necessarily the only ones injured. The list of lesions extends from trifling lacerations of the conjunctiva to complete destruction of the globe and orbital contents.

Injuries to the eye are either penetrating or nonpenetrating. Compression, contusion and concussion of the eye may occur without a solution of external con-

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tinuity but with great damage and destruction to intraocular structures.

Penetrating wounds may be incised, lacerated or punctured, with or without the retention of the agent in the wound or eyeball.

It is necessary to classify injuries of the eye as recent and old because their treatment and subsequent handling differs very materially. Recent wounds are those which come to us usually within the first few hours or before Nature has thrown out her generous supply of plastic lymph in an effort to seal and to protect the injured parts. Old wounds are those that "show up" any time after the above has occurred—varying from twenty-four hours to as many years.

The time that we see these injuries depends largely on the location and relation of the patient to the oculist. In the railroads, machine shops, etc., located in large cities, the majority of them are recent. In our part of the country, where distances are great and transportation facilities limited, the injuries of patients coming from Arizona and Mexico with all possible haste must necessarily be classed as old, for in these cases adhesions have formed, exudate is abundant and much irremediable damage has usually occurred.

Next to the actual destruction of tissue, and frequently more grave, the thing to be most deplored is infection. In non-penetrating wounds endogenous infection occasionally takes place. It is a rare complication, and fortunately so. Penetrating wounds, while intrinsically serious, are rendered dangerous by the possibility of coincident infection. The interior of the eye offers an ideal medium for the growth and development of bacteria, and this unusual susceptibility makes infection of these lesions a common incident. Septic agents may carry the infection into the wound at the time of injury or it may become infected secondarily. I can not help but believe, after considerable observation, that infection of any wound depends more on the lack of resistance offered by the tissues than the kind and virulence of the organism implanted on them. In all injuries the resistance of the affected part is greatly diminished, and for that reason there is a greater liability to infection in accidental traumatisms.

Another distressing factor and one that is at times very destructive is hemorrhage. Bleeding occurring to any great extent back of the lens is almost always of grave consequence and any relief that it demands is at best unsatisfactory.

The feature that concerns us most in these cases is the treatment. In the whole domain of surgery there is nothing that calls forth a man's best judgment and taxes his resourcefulness as does the proper handling of these lesions. To temporize with them is often to lose the eye. Former experience frequently counts for little, for the extent of the injury, the structures involved and the nature of the agent makes each case a law unto itself.

The treatment naturally divides itself into two forms —one applicable to recent cases and the other to the old. In every instance the most careful examination and inspection of the wound is imperative. Nothing could be taken for granted, for the unexpected often occurs.

In non-penetrating recent cases an expectant attitude can be assumed, and in these only, for those in which penetration has taken place an entirely different state of affairs is present. Every penetrating wound should be looked on as probably infected, and appropriate measures immediately instituted—an error at times, but a safe one to make.

Unfortunately for the oculist, the delicate structure of the tissues of the eye makes it impossible to use the vigorous measures that are of value to the general surgeon. Considering this fact, infection is, fortunately, not as common as would be supposed. When it does occur, however, it is most deplorable and of grave significance, rendering the condition of the tissues of secondary importance and surgical work unavailing.

I can not pass this subject without briefly mentioning an agent that is of great value after the usual ones have failed to control the situation. It is cyanid of mercury, used subconjunctivally, according to Darier's suggestion. In two of my cases, after every other measure failed, it has completely altered the aspect and issue of the case. It is certainly worthy of consideration and should be used not only as a last resort, but early. The only objection to its employment in this manner is that it is painful, but it is impossible and impracticable to handle this dangerous condition "with kid gloves."

The introduction of iodoform into the interior of the eye in this class of cases is receiving considerable encouragement. Personally its limited use so far has been disappointing.

A foreign body in the eye converts every injury, insignificant or otherwise, into a serious lesion. Every effort to remove it should always be made, even though it frequently is most difficult and often unsuccessful. An occasional freak case of tolerance offers no excuse for allowing it to remain. Magnetic foreign bodies, thanks to the spectacular work of the giant magnet, have, to a large degree, lost their alarming significance. Non-magnetic bodies continue and, perhaps, will do so, the *bête noir* of the oculist.

To suggest or to prescribe the proper surgical measures indicated in a particular case is impossible, for none are typical and no fixed rule can be laid down. Every individual case has its peculiarities and calls for an operation devised especially for itself. Most men are agreed in regard to general principles, and whether a wound is to be closed by suture, conjunctival flap or compress bandage is a matter of secondary importance. One fundamental, however, that should always be remembered is that surgery, at the time of injury, should be restricted as much as possible. Aseptic methods have made us bold and at times meddlesome. The vitality of the tissues is always diminished and additional traumatism encourages infection. Conservatism should be the rule, leaving as much as possible for a later period when the eye is quiet and the chances of infection reduced. One remedy deserving of special mention and of great value in certain of these cases is dionin. I believe it to be our most valuable accession since the advent of epinephrin. When indicated, it is of the greatest benefit not only for its analgesic properties, but for its ability to clear the eye of exudate and the cornea of recent opacities.

In extreme and severe injuries the question of enucleation or evisceration becomes prominent. It is of vital importance to the patient whether or not his eyeball can be saved for him, even though sightless. This is especially true in the case of children, for not only their comfort, but their orbital development depends on the retention of the globe. Great care and judgment is often necessary and the sound eye must always be given the consideration it deserves.

Burns of the eye and adnexa constitute a distinct

class of their own. The character of the agent, the extent, degree and destruction of tissue making them usually of serious import. It is in these cases that an effort, additional to the usual ones, must be made to prevent disastrous cicatrices and adhesions, with their resulting contraction and distortion of the parts.

In all doubtful cases, consultation is advisable. We are prone as our practice and experience increases to look on our own ability as sufficient. This fallacious idea sooner or later will be followed by disappointment and chagrin. No man is so far advanced that he can not at times be wrong. Neither is it always the small man that is in error. Mistakes are common property.

All prognoses should be most guarded, for in spite of every precaution and precedent the best laid plans may miscarry. Disappointing results are always possible and often occur in the most favorable appearing cases.

The treatment of old cases and secondary work frequently requires the greatest skill on the part of the surgeon. The extreme delicacy of the tissues makes plastic work in this locality very exacting. These cases constitute a large majority of our operative work and their handling requires no description here.

DISCUSSION.

ON THE PAPERS OF DRS. DONOVAN, HEATH AND MILLER.

DR. EDWARD JACKSON, Denver, emphasized Dr. Donovan's advice, which departed somewhat from the usual teaching as to the treatment of foreign bodies in the eye. Some of the foreign bodies, large ones, those that are evidently going to make trouble, may be removed at once; others may be removed from time to time as they cause trouble; and still others may be let alone always. The number is often so great that it would be impossible to get all out without messing the eye up, and yet such cases are not hopeless. Dr. Jackson reported that he had recently seen a patient whom he treated five or six years ago who now has useful vision. He had 50 or 60 foreign bodies in the cornea, a number in the iris, and the lens had so many that it underwent spontaneous absorption, and he gets good vision with a cataract glass. The eye has been perfectly quiet for over four years. This case was watched for months, and simply atropin used with occasionally hot applications. The patient's life was despaired of at first because of the extensive injury, but the eyeball was treated simply by this expectant method. In the mountain regions such injuries as these are common. Dr. Jackson mentioned the fact that eyes that have been subjected to serious injury, particularly those that remain irritable, with chronic uveitis, weeks and months afterward, have improved after the employment of the *x*-ray to discover the possible presence of foreign bodies; it has been thought that the improvement might be due to the influence of the *x*-ray, and yet the fact that the eye had not been under very skilled supervision before left the suggestion that it might be the change of treatment in other respects. Dr. Jackson cited the case of a young man who had had his eye injured in Mexico; a month or more elapsed before he received any skilled treatment. He was under observation for six months, and the most marked improvement was after the use of the *x*-ray to discover any possible foreign body. It finally yielded permanently to the *x*-ray influence so that he was allowed to return to Mexico.

DR. J. HIRSCHBERG, Berlin, Germany, said that his surgical interference with the magnet amounts to some three hundred cases in the last twenty-five years. There are cases in which eyes with foreign bodies seemed to be saved, but it was a deception. Before good magnets were employed no attempt was made to cut the globe and to remove the foreign bodies. It is clear that every particle of iron must be extracted from the posterior parts of the globe; particularly if the case is fresh Dr. Hirschberg always interferes at once, if possible within ten or fifteen minutes after the patient comes in. One can never be sure about the nature of the infectious material. Foreign bodies received into the eye from shoeing horses are particularly infectious. These cases are clear, but in others there is no test of the infectious character of the foreign body, and so in fresh cases one should always endeavor to extract them. Never apply the giant magnet as a means of diagnosis; that is very bad. Dr. Hirschberg has seen in America several specimens of the Hirschberg magnet which are not the modern magnet at all. One of the dangers, of course, is sloughing of the eyeball following the introduction of septic material. But, even if the body is aseptic, there are many dangers. If the splinter is as large as the papilla optica, generally there follows the formation of connective tissue with detachment. If the foreign body is not so large, however, it is still not free from danger. There will be contraction of the field in dim light, and, even though the case may seem to do well for many years, the eye is never out of danger. Last year Dr. Hirschberg removed from the retina a foreign body of sixteen years' standing and got good vision. A careful examination of the field of vision showed contraction, and if left alone the eye would surely have become blind. Even after sixteen years, then, good results were obtained with extraction of the foreign body without detachment of the retina. Dr. Hirschberg referred to the so-called "tolerance of the eyeball for foreign bodies;" he thought we should speak of the "intolerance" of the eye for foreign bodies. Some one had asked what is done with the iris when the foreign body is brought into the anterior chamber, and Dr. Hirschberg said that after he gets the body into the anterior chamber he makes an incision and introduces the curved point of the magnet and draws it out, then replaces the iris, and the pupil generally remains round.

DR. EUGENE SMITH, Detroit, said that he had had in his paraphernalia for a great many years a Hirschberg magnet, and that he had been successful in a number of instances with the hand magnet in getting out pieces of steel which were not touched by the Haab giant magnet. In other cases in which steel was imbedded in the ciliary region, attempted extraction with the Haab magnet has been followed with destruction of the eye. Dr. Smith said that he has long been on record as being in favor of locating the piece of steel and making an incision in the sclera in the immediate vicinity of the foreign body and using a Hirschberg magnet for its withdrawal. There are, however, many of these cases in which it is almost impossible to locate the foreign body. He always endeavors to get at the position of the patient at the time of the accident so as to get as nearly as possible the direction in which the piece of steel has entered the eye; also the force of the blow as nearly as possible. This will often aid considerably in getting at the depth. If a foreign body has gone directly in, it will be in the posterior part of the eye; if diagonally, one can get at it better by making efforts in the direction in which the body has gone. If the case is not seen until after the original wound has closed, it may be located with the ophthalmoscope or the sideroscope, and then an incision through the sclera in the immediate vicinity of the foreign body is preferable to the use of the Haab magnet, with the danger of drawing it into the ciliary region. Dr. Smith reminded the section that a number of years ago he gave to the association an operation for the relief of iridodialysis, but the text-books have not mentioned it. Others, however, especially across the water, have employed it. Where the iris is torn loose and hangs free, and there is interference with vision from the two pupils, Dr. Smith thought of the method of making an oblique incision just at the sclerocorneal junction, introducing the forceps, taking hold of the iris and drawing it gently into this oblique incision, where by a pressure bandage it remained, obliterating almost entirely the extra pupil, or making it so small as not to interfere with vision. Other operators have found favorable results from the use of the method.

DR. W. E. BRIGGS, Sacramento, said that the tendency of the profession is to be too radical in the treatment of the cases in which there are a great number of foreign bodies in the eye. Special workers have to contend against the fact that the surgeon who attends the case first is very liable to be too radical. Dr. Briggs has had a number of patients in whom useful vision has been saved, even when both eyes were injured, by advising strongly against any radical procedure. Useful vision can often be preserved with a number of foreign

bodies remaining in the eye. A few months ago he had a patient with foreign bodies in the vitreous of both eyes. In one eye there was no possibility of saving vision, and the eye was so painful that it had to be enucleated, but the other, which one would ordinarily say could not be saved, as there were a large number of foreign bodies in the vitreous, pieces of quartz and grains of powder, was let alone. The patient now has sufficient vision in that eye to enable him to go about and even to make change. In another case, when the physician asked if it were not advisable to enucleate both eyes in a case of very extensive injury, Dr. Briggs thought it well to wait until enucleation seemed absolutely necessary; this, too, was a case of quartz in the eye. That patient retained enough vision to go about without difficulty.

DR. L. H. TAYLOR, Wilkesbarre, Pa., declared that it is not altogether the place in which the injury occurs, but the sort of foreign body that enters the eye, that determines the danger. Those who practice in mining regions have opportunities to see injuries of all degrees and kinds. Some very serious ones get well with little difficulty, while others, seemingly slight, cause a great deal of injury. Dr. Taylor mentioned the case of a man who after a most severe injury has good vision after a lapse of twenty years. In another case he removed a large piece of coal that had been in the eye for many years without causing trouble; then there presented a small point in the conjunctiva, and on operating to remove it he found a very large body, and yet the patient had carried it for many years with good vision. Dr. Taylor referred to a paper by D. Harlan, presented some years ago, on "Blind Eyes Are Dangerous Eyes," and said that these eyes are always liable to set up trouble, but whether they should always be removed is another question. He removed an eye some time ago that he had treated seventeen years previously. During that time the patient had had no trouble. In another case he removed an eye in which a foreign body had been carried for thirty-two years. There was a great deal of irritation and the eye had to be removed. He asked if those two eyes should have been removed at once. Of course, it would have been safer, and yet one patient went seventeen and the other thirty-two years without discomfort, and surely they were in a better condition with the blind eyes than they would have been with artificial ones. If patients could only be watched, Dr. Taylor believes that many eyes that are enucleated might be saved, even though blind eyes with foreign bodies in them.

DR. JOHN E. WEEKS, New York, stated that the prognosis depends largely on the character of the foreign body. As Professor Hirschberg has said, a foreign body composed of steel or iron is disastrous to the eye in almost, if not in every case, sooner or later, and should be removed as soon as possible. A piece of steel may remain in the eye a number of years, but sooner or later it is sure to cause trouble. Copper is another of these substances. It produces inflammatory reaction of a severe type and suppuration, and should always be removed as soon as possible after its discovery in the eye. Many pieces of rock and earthy material may remain in the eye without producing any great inflammatory reaction, and these minute particles may be allowed to remain with the hope of retaining a certain amount of useful vision. Particles of glass under certain conditions may remain indefinitely without doing away with the vision of the eye. Particles of powder also may remain in this way, and particles of lead, but in the majority of cases lead will set up an irritation that makes necessary the removal of the eye. Dr. Weeks has seen shot remain in the eye many years with retention of good vision, but ultimately the eye became irritable and operative procedures had to be instituted. If the character of the foreign body is known the method of treatment may be based on that knowledge. When a foreign body is present, Dr. Weeks thinks it is essential to know the location of that body as nearly as possible, and every method for its localization should be employed. In removal of a foreign body from the anterior chamber Dr. Weeks always makes a T-shaped incision, as otherwise the lips of the wound are too rigid, but with a T-shaped incision there is a satisfactory scar and the lips of the wound are pliable, so that the foreign body may be removed much more easily.

DR. S. D. RISLEY, Philadelphia, emphasized the necessity for waiting before any operative interference for the removal of the cataractous lens in these cases. There are a great many of these at the Wills' Hospital in Philadelphia, and he learned long ago to advise waiting until the eyes became quiet, and many times he has had patients go through a few weeks of treatment at the hospital and then sent them home, telling them to come back in six months, and he has found that after the eyes became quiet operative interference could be undertaken with less danger. He referred to one of the cases mentioned in Dr. Heath's paper, in which a foreign body was entangled in the iris and was difficult to remove, and in which Dr. Heath made a T-shaped incision and succeeded in removing the foreign body and in replacing the iris. He asked whether in the majority of cases this would be the proper course to pursue. Dr. Risley's experience bears him out, he said, in the statement that it would have been better to remove the foreign body with the entangled particle of iris. The iris is prone to take on inflammatory reaction of a plastic nature, and he believes that it would be safer to have done an iridectomy in the removal of the foreign body. He said that with particles of suitable size, after they have been located with the *x*-rays, it is safer to remove them without the use of a giant magnet. If they are not already in the anterior chamber he thinks that by making a scleral puncture and placing the Hirschberg magnet to the lips of the wound, the foreign body may be withdrawn without introducing the magnet. It is never prudent or wise to insert the point into the vitreous if it can be avoided. If the foreign body weighs a grain or two, the giant magnet is always unsafe. He has seen the iris bulge with the foreign body, cut off the current immediately, and then he has seen the foreign body come through the point of entrance like a bullet, and take with it the iris. Therefore, if the body is of any considerable size the giant magnet is dangerous. Dr. Risley has seen a silver suture, which had been overlooked in a wound, removed after five years, and the tissues were discovered almost black. He alluded to this to illustrate the chemical changes that may take place in certain of these bodies located in the eye. With the known presence of these metals in the eye, strenuous efforts should be made for their removal. As to the non-magnetic character of some forms of steel, as manganese steel, attempts at removal may be disappointing, because of the low degree of magnetic properties of these substances.

DR. MARK D. STEVENSON, Akron, Ohio, said that he has been using iodoform in beginning panophthalmitis and feeling that possibly the discs might be more or less irritating he attempted to place the powder in the eye; this was done with considerable difficulty. More recently he devised a little instrument by which the powder may be placed within the eye very easily. Of course, when the particle is sterile or when there is no infection it would be unwise to use the iodoform. In recent cases in which there is known danger of infection it would be wise to introduce the iodoform immediately. He prefers the powder because it remains for a considerable time and can always be readily seen, giving assurance that the substance is still there. If a fluid is placed in the eye it may flow out in the anterior chamber with the aqueous humor. He finds that eyes in which he has used iodoform heal very readily.

DR. JOHN A. DONOVAN stated that the foreign bodies in these blasting operations are non-magnetic in character, so that the use of the magnet does not come into question. He would endeavor to remove foreign bodies in every case where it is possible.

DR. F. C. HEATH said, in reference to the case in which he left a small particle in the iris, that prolonged efforts would have injured the eye more than leaving the foreign body in. First, the foreign body was small, not more than one-quarter the size of the head of a pin; second, it was in a position where it was not likely to set up trouble; third, the patient had lost the other eye.

The Consultant.—Every practitioner who has been in active practice for twenty-five years should have a competency and should devote himself to consultation practice in special work, leaving general practice to the younger.—*Pacific Med. Jour.*

THE MATAS OPERATION FOR THE RADICAL CURE OF ANEURISM,

AS APPLIED IN TWO CASES OF RUPTURED ANEURISM.*

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NEW ORLEANS.

The procedure described by Dr. Rudolph Matas[1] has attracted widespread attention, and has been tried in a number of successful cases, recently reported, sufficiently to prove its merit as a permanent and notable advance in the surgical treatment of aneurism. It is still, however, a comparatively new and untried method, and all clinical reports which bear on its application in atypical conditions should be instructive and profitable to the practical surgeon.

Presuming that the reader is familiar with the original procedure described by Dr. Matas, I will limit my remarks to two cases of aneurism of the fusiform type which came under my observation in the Charity Hospital. In each instance, the aneurism had ruptured into the subcutaneous and intermuscular spaces before I was called to operate on the patient. On account of existing conditions, I deemed it expedient to depart in some details from the technic recommended by the originator of the method, while preserving the fundamental principle of using the suture in controlling the bleeding orifices within the sac. The results would show that in adapting ourselves to atypical conditions, variations in technic are permissible and advantageous, as they do not affect the principle of the method, while they expand its application.

CASE 1.—C. P., laborer, aged 40 years, was admitted to Charity Hospital August 1, 1904.

History.—Family and personal history were negative. Three weeks before admission he noticed some swelling about the right ankle. One week later, while at work, he noticed a swelling about the middle and on the inner side of the thigh, which had continued to increase in size since, and became painful after the first week. He had had no chills or fever. Just before applying to the hospital he consulted a physician who punctured the swelling with a hypodermic syringe and drew some blood and advised him to come to the hospital and have the abscess (so he called it) opened.

Examination.—This showed a hard, somewhat fluctuating, irregularly ovoidal tumor tapering to a point above at about the origin of the adductor magnus muscle. It was largest at about the middle of the thigh and extended below to within about four inches of the upper border of the patella. The tumor was well defined except at its upper end. No pain on pressure, no pulsation, no thrill, and no bruit could be discerned.

The skin was freely movable over the tumor and was slightly warmer than the surrounding parts. The femoral artery could be felt to pulsate down to about the middle of the tumor, but was then lost in its substance. There was no pulsation in the dorsalis pedis or posterior tibial arteries. The pain in past three days had been increasing in intensity.

Operation.—He was put to bed and prepared, and on August 4, under chloroform anesthesia an incision was made over the most prominent part of the tumor anteriorly, and after going through skin and superficial fascia, an exploring needle was inserted into the tumor and some dark blood aspirated. Through a second incision, a provisional ligature of stout silk was passed around the femoral artery, just below Poupart's ligament, to control hemorrhage. The incision over the tumor was now completed and a large cavity fully 12 inches in length and 6 in depth, filled with fluid and clotted blood was exposed. There was some active bleeding and after quickly washing out blood clots and sponging out all fluid, the chief bleeding point was located just above the femoral opening in the adductor magnus muscle. This bleeding was stopped by digital pressure and the cavity inspected. The bleeding point proved to be the lower opening of an aneurismal sac which had ruptured anteriorly and now formed part of the floor of the present cavity which had been produced by the blood extravasated into the tissues immediately surrounding it. On further examination, it was found that there was still some bleeding and that this came from the upper opening of the sac, which was seen about two inches above the lower, bleeding also, but less profusely. Both openings were closed with silk purse-string sutures, over which were inserted a layer of interrupted Lembert sutures; the provisional ligature on the common femoral was then removed, and all bleeding found to have been completely controlled. The removal of the ligature, however, revealed an aneurismal dilatation of the femoral artery for a distance of about one and a half inches above its opening into the sac, with an intervening apparently healthy constriction at its point of entrance. Another silk ligature was applied around the vessel just above this dilatation and tied. The sac was then irrigated thoroughly with hot normal saline solution and washed clear of clots and sponged dry. Two long laparotomy gauze sponges were inserted and the ends pushed up to the upper end and bottom of the cavity and the wound partly closed with silkworm gut sutures, thus allowing free drainage of any secretion that might accumulate in such a large cavity. The upper incision over the femoral artery was sutured with catgut, and after the application of an abundant loose gauze dressing, the whole limb was wrapped in several layers of cotton batting, and a posterior gutter pasteboard splint was applied, immobilizing the knee in extension. The limb was kept slightly elevated and surrounded with hot cans. The foot was warm immediately after the operation and continued so, there being apparently no interference with its circulation, and several days later pulsation could be felt in the dorsalis pedis artery.

After-treatment.—The dressing was removed on the sixth day, it was very much soaked with secretions, and the cavity was washed and repacked. This procedure was repeated every second or third day till the wound finally closed by granulation from the bottom. This took place very rapidly and he was discharged October 15, with perfect functional result.

CASE 2.—H. W., aged 30, was admitted to Ward 4, November 25, 1904.

History.—Family history is negative. The patient smokes, chews and drinks. Former diseases: Both legs were broken seven years ago at junction of middle and lower third. He was in a railroad wreck one and a half yars ago and received general contusions. He had gonorrhea seven years ago, but denies having had syphilis. The present complaint began in June, 1904, with pain in middle third of left tibia, extending to the ankle. This pain constantly increased. About Nov. 1, 1904, the patient noticed a pulsating painful tumor in the left popliteal space. This tumor became smaller under treatment of pressure applied with a cork and bandage. He tried this plan about one week, then he took the bandage off and began hard work in a sawmill. He worked ten days, when he noticed that his left ankle was swollen and he had a severe pain in the leg. The tumor appeared again in the popliteal space and began to grow much larger and became more painful.

Examination.—There is general arteriosclerosis and an aortic obstructive murmur. There was a large, pulsating expansile tumor occupying the left popliteal space, which increased one inch in size (circumference around knee) when pressure had been made above and released. A bruit could be heard over the tumor and over the femoral artery at Poupart's ligament. There was no pulsation in the posterior tibial artery. Pressure below did not increase size of tumor.

Treatment.—The patient was put to bed and ordered potassium iodid, grains 10 t. i. d. and the dose increased one grain daily. On November 27 an icebag was applied to the knee,

* Read at the annual meeting of the Louisiana State Medical Society in New Orleans, 1905.

1. The Radical Cure of Aneurism, Based on Arteriorrhapy: Trans. Amer. Surg. Assoc., 1902; Ann. of Surg., January, 1903.

codein sulphate ¼ grain was given and the leg was elevated. Temperature at this time was 98 F., pulse 96, respiration 24. The patient complained a great deal on that day. About 2 p. m. the pain suddenly ceased. At 4 p. m. temperature was 101, pulse 120, respiration 24. Examination of the knee showed a soft fluctuating mass to outer side of and above the patella. At 7 p. m. a ruptured aneurism having been diagnosed, he was taken to the amphitheater and prepared for operation.

Operation.—Under chloroform anesthesia, ether being substituted later, an elastic constrictor was applied in the upper part of the thigh and a longitudinal incision of about three and a half inches was made over the center of the tumor in the popliteal space, and a large cavity filled with clotted and fluid blood was exposed to view. After washing out the blood and clots the cavity was seen to be about six inches in longitudinal and four inches in transverse diameter. Its upper boundary was not so well defined as the lateral and lower ones, the blood having evidently dissected its way under the hamstring muscles on the outer side, and between them above, where the cavity ran up into a point. On the inner aspect and near the bottom, the wall of the cavity presented an area about one and a half inches in diameter and two and one-half inches in length, which was whiter and more smooth and glistening than the rest of its surface, which was of a dark and bloody hue. This proved to be the original aneurismal sac, there being one opening in it near its upper margin and one near its lower, and about one and a half inches apart. These openings were closed with Lembert sutures of small silk on a curved needle, and, as an additional safeguard, a suture was passed completely encircling the upper opening and tied. On the removal of the elastic constrictor there was no bleeding whatever. The cavity was once more flushed with hot saline solution and packed with gauze and a large dressing applied. The limb was wrapped in cotton batting and a posterior splint of pasteboard applied to immobilize the knee. Hot cans were applied around the limb for two days. The toes were felt to be warm, however, on his return to the ward from the operating room, and the wound healed from the bottom by granulation. He made an uneventful recovery, being discharged from the hospital cured on Jan. 9, 1905.

REMARKS.

In the first case, the diagnosis of aneurism was not made till the sac had been opened, though, fortunately, the common femoral artery had been tied temporarily as a preliminary measure. In the second case, my attention was called to the patient by the appearance of a soft swelling to the outer side of, and somewhat above, the patella in a case previously diagnosed as popliteal aneurism. In both cases, hemostasis was secured by suturing the arterial openings within the aneurismal sac. The sac was not excised nor was it obliterated. The dissection of the tissues by the extravasated blood had created a cavity of such size in each case that it was deemed proper (in view of possible infection of so large a space, which would soon fill with fluid secretion from its extensive surface if not drained), to irrigate thoroughly and to use a long gauze drain; which performed its functions well, as the copious secretion on the dressing later showed. There was little or no interference with the warmth, sensation, or nutrition of the limb beyond the aneurism as a result of the operation. The functional result was perfect on discharge, the healing being complete.

The operation as described by Dr. Matas is probably the simplest and easiest operation devised for the purpose, when temporary hemostasis can be secured by an elastic constrictor, a provisional ligature, or even digital pressure. Any one who has performed the tedious, prolonged operation of ligation above and below and excision of the sac is certain to become a convert to this method the first time he tries it.

The incision required is smaller, the openings in the vessel are easily and very plainly exposed to view, and very easily closed by suture. The number of rows of sutures may be increased at the option of the operator to any number he may deem necessary to insure safety against secondary hemorrhage. The integrity of the sac is not interfered with, and as there is no dissection either around, or above, or below the sac, there can be no interference with collateral circulation so essential to the life of the limb beyond.

There is one point that is brought out by these cases and which makes them especially worthy of record, and that is, that where the aneurism has ruptured some time previously and has given rise to a cavity of such size that its obliteration by suture would become either impracticable owing to its extent, or inadvisable owing to the possibility of interference with collateral circulation by the incision and dissection rendered necessary to expose the whole cavity for the purpose of suturing, it is better to close the incision partly, and to drain, allowing the wound to fill by granulation from the bottom, instead of obliterating the cavity by suture, as is done in the unruptured cases. This can be very materially aided by gentle compression of the sac in the application of the dressing and the use of a gauze drain that will act as a wick rather than as a pack.

In Case 1, for instance, in order to have sutured together the walls of this cavity, it would have been necessary to make an incision of about fourteen inches in length. There is the additional advantage, too, of a saving of time by this method, which is of momentous importance to a large class of patients who stand operation and anesthesia badly.

THE EFFECTS OF THE INHALATION OF THE FUMES OF NITRIC ACID.

WITH REPORT OF CASES.*

J. N. HALL, M.D., AND C. E. COOPER, M.D.

DENVER.

The Denver Fire Department was called to the office of the *Denver Post* Sept. 20, 1904, at 4 p. m. On arrival they were informed that a carboy of nitric acid had been accidentally broken in an attempt to remove the stopper with a hammer. The acid spread across the floor, coming in contact with the zinc used in etching. Sawdust was used to absorb it, and, rapidly oxidizing, burst into flame here and there, resulting in the call for the firemen. Mr. Bradt, foreman of the department, who was at work in the room, states that the fumes and smoke were not especially irritating until the portable apparatus began playing on the fire, the usual carbonic acid-producing solutions being employed.

We find by examination that the acid used contained no appreciable amount of nitrous acid and was of about 38 per cent. strength. About ten gallons of it escaped from the carboy. We believe the symptoms to have been caused by the smoke, made much more irritating and corrosive by the presence of the nitric acid and the products of its union with organic matter. Dr. E. C. Hill states that under these circumstances HNO_2 would arise from decomposition of the HNO_3, and also nitric peroxid (NO_2), and nitric oxid (NO).

Haines and Peterson[1] state that nitric oxid (NO) is

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Text-book of Legal Medicine and Toxicology.

obtained by the deoxidation of nitric acid, by the action of this acid on metals, vegetable fibers, etc. They mention, as symptoms of acute poisoning, dyspnea, tightness of the chest, coughing, fainting, cyanosis, diarrhea and collapse. Concerning one case they state:

Blood drawn on venesection tarry, thick, black and rapidly coagulating. It is of diminished alkalinity, and on dilution becomes red and shows the oxyhemoglobin spectrum.

All of these compounds are irritating when inhaled. In view, however, of the irritant qualities of many gases inhaled in fires, in the use of disinfectants and otherwise, and the more or less similar results in most such cases, we would insist on the point that the irritation of the inhaled fumes, and not the direct chemical action, is probably the dangerous feature. Thus Dr. Hall has reported[2] a rapidly fatal case of bronchopneumonia resulting from the inhalation of smoke from burning weeds and grass, the subject being a feeble asthmatic of 61 years. In the same paper were reported cases from the inhalation of chlorin, of sulphurous acid, and of formaldehyd, differing only in degree from the cases we are now studying, and from each other. The chemical effect is apparently subsidiary to the irritant one in all; but, in general, we must conclude that smoke, which is not much feared by firemen, is vastly more irritating and, therefore, dangerous when contaminated with fumes of various chemicals.

Eighteen firemen and two men employed in the office were affected severely enough to demand medical aid. Of these, four died, two on the second day, from the direct consequences, and two several weeks later from relapse. The immediate symptoms complained of while exposed to the fumes were, in order of frequency, as follows: Dyspnea, pain in the stomach, pain in the chest, headache, dryness of the throat, coughing, vomiting, dizziness, difficulty in walking, and dryness of the nose. No unconsciousness was noted. Nearly all the firemen returned to their respective firehouses, not considering themselves seriously sick. After a few hours many of them sought medical aid, and within twenty-four hours all of them excepting one were patients in the Emergency Hospital.

We next present a list of the prominent symptoms noted in 15 of the 16 cases which recovered: Dyspnea, present in 100 per cent.; cough, present in 93 per cent.; pain, present in 87 per cent., especially in the sides of the chest, stomach, lungs, throat, loins and head; dizziness and nausea, present in 73 per cent.; cough of especial violence, present in 67 per cent.; vomiting, present in 53 per cent.

During the first week of illness dyspnea persisted in 100 per cent. of the cases; 93 per cent. were confined to bed during this time. Pain persisted in all those who complained of it during the first day, and in practically the same localities.

Marked prostration was present in 87 per cent. Fever in 80 per cent., generally of moderate severity. The cough generally persisted, with bloody expectoration, in 27 per cent., and voluminous expectoration in 60 per cent. The taste of nitric acid in the expectoration was complained of by several patients.

Within the first half of the second week many of them were discharged, the average time in bed for the whole number being eleven days. Ninety-three per cent. complained of general weakness, and but one felt well on arising.

Relapse occurred in 33 per cent. of these cases, generally in the third week, and averaging 15½ days in duration. The symptoms were those of the original attack, but of less intensity.

The length of time from the exposure until practical recovery in eight cases averaged 113 days, the maximum being 210 days, the minimum 90 days. Five state that they are not well yet, and two failed to answer.

Those having any remaining symptoms nine months after the attack number eleven, or 74 per cent. These symptoms, in order of frequency, are dyspnea, "nervousness," stomach troubles of various kinds, cough, dryness of throat and nose, pain in the chest, loss of weight, dyspnea on inhalation of smoke, dizziness, pain in the loins, and headache.

There was a loss of weight in 87 per cent. of the men, entirely regained in 40 per cent., not regained in 13 per cent., and no reply was made in 47 per cent. The average loss was 25 pounds, maximum 40 pounds, minimum 20 pounds. The average regained was 18½ pounds, maximum 30 pounds, minimum 5 pounds.

Sixty per cent. find they are more susceptible to cold now than previously. The dryness of the nose is thought to be due to a beginning chronic rhinitis, due to the irritation of the fumes inhaled. The dyspnea on inhalation of smoke may well be largely nervous in origin, but doubtless in part because of the increased susceptibility of the bronchial mucous membrane due to the action of irritants. The pains in the sides of the chest are, we believe, pleuritic in origin. They were exceedingly severe in some of the cases in the first days of the illness, indicating at that time a dry pleurisy, since friction sounds were heard. The later pains may well have been sequential to such a pleurisy. The rapidity with which the pain developed in some cases suggests the likelihood of its having arisen from direct irritation of the lung by the acrid smoke.

Albumin was noted in at least one of the cases, but evidently no such damage was done to the kidneys as in some cases we have seen in which acute nephritis followed the swallowing of mineral acids. Probably little of the acid was absorbed, most of the damage from it being caused by its irritant effect.

Two of the cases died on the second day, one on the twenty-second day during a relapse, and one at the end of one month, also during a relapse.

The two who died on the second day were affected about as were those who recovered, but more severely. Cough was not a notable symptom. Cyanosis, nausea, diaphragmatic pain, dyspnea and vomiting were noted early. In both there was unconsciousness for several hours before death, and the physical signs of a progressive bronchopneumonia, but without the fever and other constitutional symptoms of an infectious disease. One of these had an extremely rapid pulse. Both expectorated frothy, blood-tinged serous fluid for some hours before death. Dr. P. V. Carlin informs us that pneumothorax developed in one of them.

The two who died during relapse suffered about as the others did during the primary attacks. Both were comparatively well during the interval. Both were exposed to cold and almost immediately entered the relapse. The two cases were similar enough so that the following description may well answer for both:

The sputum was blood streaked, thin and abundant. The cough was at times violent. Pleuritic pain was severe (and in one severe pain existed in the pharynx, larynx and esophagus). Large and small râles were

2. Phila. Med. Journal, 1902. "Bronchitis and Bronchopneumonia from Inhalation of Irritants."

abundant, at first in the lower portion of the chest, and gradually extending upward. There was moderate rise in temperature, pulse and respiration. The cyanosis was intense (and not relieved by oxygen in one of the cases, although somewhat so in the other). Both died with all of the symptoms and signs of a desperate bronchopneumonia.

Before the relapse both of the men had been discharged from the hospital as recovered from the acute condition, although both complained of moderate exhaustion, such as is common to the period of convalescence from any acute illness.

In one of them examined the day before the relapse, no physical signs of disease were found. We believe that exposure to cold, which occurred in both cases, was the exciting cause of a renewed and virulent inflammation, rapidly extending into a definite bronchopneumonia, as above described.

On two patients autopsies were held, unfortunately unknown to either of us. We quote portions of the reports to the coroner by Dr. W. S. Holmquist and Dr. H. R. McGraw:

Dolloff.—"The pericardium showed spots of metallic luster on the upper surface. The heart was filled with extremely dark coagulated blood, less consistent than clotted blood. Pleuræ free. Lungs large and voluminous, on section bled freely. Some spots were devoid of air. Bronchioles filled with bloody fluid. Much of the lung tissue was edematous and heavy. Mucosa of bronchi perceptibly thickened."

"*Diagnosis.*—Deceased died from asphyxia, due to an acute congestion of the lungs; and a pathologic change in the hemoglobin of the blood."

Eyman.—(Died in relapse, one month from exposure.) The essential features are stated by Dr. H. R. McGraw "to have been those of a bronchopneumonia, with almost complete solidification of lung in places. Sections from these solidified portions showed superficial coagulation necrosis and the alveoli were found filled with necrosed cells in places. Other parts showed a beginning fibrous development. Deposits of blood pigment were noted in spots upon the peritoneum. Dilatation and hypertrophy of the heart. No changes were noted in other organs."

The pathology, in our opinion, is a combination of purely local and general effects. Locally, the inhalation of the nitrous and nitric oxids, the products of combustion, and of the chemical reactions between the acid, zinc, and the chemical solution used to extinguish the blaze, assisted by the violent respiratory efforts occasioned by the physical exertion, produced an irritation and probably a mild coagulation necrosis of the mucous membrane of the air passages and the alveoli. In the two cases that died early there was produced promptly a severe bronchopneumonia. In those dying during a relapse the necrotic areas were largely cleared up by absorption and exfoliation, leaving exposed a delicate and susceptible membrane. The exposure to cold was sufficient to excite a bronchopneumonia of especial intensity on this account, proving rapidly fatal. Dr. Hall has reported[3] a case of lobar pneumonia in which, twenty-three days after recovery, a robust young man was exposed for a few hours to severe cold (about 20 degrees below zero), and died in a few hours of acute pulmonic congestion. It is probable that the fatal result in this case, as in those we are studying, was due to a bronchopneumonia, with great accompanying edema.

The cyanosis in the severe cases was extreme. It was doubtless in part purely mechanical, as in ordinary bronchopneumonia, but largely due to the changes produced in the hemoglobin to which we have referred, and which interfered with its oxygen-carrying capacity. We await anxiously the careful investigations of Drs. Holmquist and Edson on this feature of the cases which they have studied.

The treatment generally followed, we believe, was that of an ordinary severe bronchopneumonia. Oxygen was used in all of the severe cases, with differing but generally unsatisfactory results. In a severe case of Dr. Cooper's, aconite in minim dosage, with vigorous external counter-irritation, was followed by marked relief. This was the patient who finally died in the relapse on the twenty-second day, these measures proving ineffectual at this time.

To us it seems that the one most important factor in determining the question of death or recovery was the severity of the initial exposure. Theoretically, the inhalation of ammonia at the time of exposure should be of benefit, but this would hardly be practicable. We believe that, at present, stimulation, the use of oxygen when indicated, atropia for the edematous exudation, vigorous counter-irritation, with eliminative and supportive measures offer us the most hope in the primary attack. If recovery occurs, we would strongly urge suspension from work, rigorous avoidance of exposure, and residence for some months in a warm, equable climate, such as one would choose for a feeble patient with chronic bronchitis. Those of the Denver cases who were able to follow such a course are at present working, and without serious symptoms. In view of the lessened pulmonary resistance, we would suggest also the adoption of effective measures for the avoidance of infection by the bacillus of tuberculosis.

If we can not save all of those exposed in the performance of their perilous duties to the inhalation of dangerous gases, we should insist the more strongly on the avoidance of anything tending to bring about relapse, which we have noted to be so fatal.[4] It is likely that we can save more lives by strict attention to this feature than by any other single measure.

We are under especial obligations to Dr. W. H. Sharpley, Health Commissioner of the City and County of Denver, for his encouragement and assistance in the preparation of this paper; to the Denver Fire Department, and to the physicians who attended other cases than those which we saw, who have so generously given us their aid.

DISCUSSION.

DR. N. H. NEILSON, Milwaukee, Wis., reported having the same experience in Milwaukee, two years ago, showing the effects of the fumes of nitric acid by inhalation. The men who were engaged in putting out the fire returned to the station house, and within one or two hours—six or seven hours after the exposure—they began to have symptoms of pulmonary congestion, as described in the paper. Some of the men died and some recovered for a time, but had relapses. Some had a chronic bronchitis and were sent to Texas, where they recovered—all but one, who became despondent and committed suicide. In these cases it was believed that the pulmonary edema was the result of the local irritation on the mucosa and not a systemic effect. Whatever systemic effect there was was from the inflammation alone. Dr. Neilson did not think that a report of the cases was published.

DR. JOHN H. MUSSER, Philadelphia, said that the autopsy findings in such cases do not support the belief in the presence

3. Denver Medical Times, 1898.

4. In the case of a fireman, quoted by Dr. Hall in the above mentioned article as dying from inhalation of smoke containing fumes of some undetermined acid, the death was also during relapse, being directly caused by pulmonary embolism from a phlebitis of the leg, at the end of the fifth week.

of any pleuritis, and he, therefore, asked as to the occurrence of the inflammation and the vomiting.

DR. G. W MCCASKEY, Fort Wayne, Ind., thought that the symptoms in these cases indicate a degree of exhaustion unusual with a simple irritative bronchitis, and that the evidence points toward a severe toxemia as a result of absorption of the poisonous gases. It is peculiarly the function of the respiratory tract to absorb gases, and it seems only reasonable to suppose that such absorption would take place and should be considered in accounting for the very severe constitutional symptoms manifested by these cases.

DR. J. N. HALL, Denver, remarked that it was rather difficult to report these cases with any degree of accuracy, because they fell into the hands of about twenty physicians. Dr. Cooper took care of six and Dr. Hall three. A pleuritic friction was well marked, beginning within twenty-four hours. Necropsies were made by the coroner's physician, and the bodies were buried before Dr. Hall knew of the deaths. He, therefore, had no opportunity to study the pathology. The toxemia was similar to what would be expected from inhalation of chlorin, formaldehyd or smoke from burning grass, but no case pointed definitely to a toxemia from the acid itself. Dr. Hall could not explain the vomiting. Although none of those exposed were supposed to be sick enough to keep in, at the end of twenty-four hours they came back to the hospital.

Special Article

IMMUNITY.

CHAPTER XXI.

BOTULISM.

Botulism is a peculiar form of meat poisoning in which the nervous system is involved principally. From twenty-four to thirty-six hours after meals, salivation, ptosis, dilatation of the pupils and paralysis of the ocular muscles develop and death from bulbar paralysis occurs rapidly in from 25 to 30 per cent. of the cases. In the event of recovery, convalescence may extend over weeks or months. In 1895 V. Ermengem investigated a ham which had caused 50 cases of botulism, and isolated from it an anaërobic, spore forming bacillus, which produces a soluble toxin capable of causing the entire symptom-complex of the disease.[1]

Bacillus Botulinus.

The organism possesses flagellæ, has limited motility, grows only in alkaline media, and in contrast to most pathogenic organisms prefers a relatively low temperature (18-25° C.). It is probably on account of its physiologic activity at such temperatures that it is able to produce its toxin in meats which have been kept in a cool place. It is found in decomposed ham and various sausages (Leberwurst and Blutwurst.) The Germans speak of the disease as Wurstinfektion. The disease occurs especially in some European districts in which improperly preserved or raw meats are eaten. The bacillus appears to gain access to the meat after the animal has been killed. V. Ermengem investigated two hams from the same animal. One was under anaërobic conditions being covered with brine while the other was exposed to the air; only the former was toxic. The organisms may be absent from the superficial portion of the meat, but abundant in the deep portion. Aside from its occurrence in meat nothing is known of the life history of the bacillus. The term ichthyosismus is applied to a similar or identical disease which is caused in Russia by salted fish.

Infected Meats.

The disease is caused by the toxin which has already been produced in the meat and not to the activity of the organisms after it has reached the alimentary tract (v. Ermengem). If an extract of the meat is made with water and the bacteria removed from the latter by filtration, the fluid shows characteristic toxicity for animals. This may be used for determining the presence of botulism toxin in suspected meat. The guinea-pig is the most susceptible animal. The spores of the bacillus are relatively susceptible to heat, being destroyed by a temperature of 80° C. for one hour.

Toxin.

According to v. Ermengem, the bacillus does not proliferate in the body, nor does it produce toxin vigorously at body temperature, hence he considers it to be a strict saprophyte—a pathogenic saprophyte.

The toxin is taken up by the circulation from the alimentary tract and is not destroyed by the gastric and pancreatic juices, differing in this respect from the toxins of diphtheria and tetanus. It is prepared artificially by growing the organism anaërobically in suitable bouillon and subsequently sterilizing the fluid by filtration. Like the other soluble bacterial toxins, it is susceptible to the action of air and light, and is destroyed by a temperature of from 60 to 70° C.

Pathogenesis.

That the toxin has a special affinity for the nervous tissues is evident from the symptoms of the disease. An emulsion of nervous tissue when mixed with the toxin absorbs or neutralizes it and the ganglionic cells are found to be degenerated in fatal cases of infection. The toxin, however, appears not to be so selective in its action on the nervous tissue as the toxin of tetanus, for in botulism degenerations of the glandular organs, and of the vascular endothelium with consequent hemorrhages are characteristic anatomic findings. On the basis of clinical evidence man is very susceptible to the intoxication. Dogs, rats, and cats are relatively immune. The toxin is pathogenic by subcutaneous or intravascular injection.

According to v. Ermengem, the bacilli when inoculated subcutaneously do not proliferate, but are taken up by the phagocytes immediately or after they have been carried to other organs. Animals which have recovered from infection or which have been immunized, acquire rather strong immunity to subsequent inoculations, the immunity being antitoxic.

Prophylaxis and Antitoxin.

The prophylactic measures consist in the avoidance of poorly preserved and improperly cooked meats, especially sausages. Botulism would seem to be very rare in this country where raw meats are not used extensively.

The antitoxin (Kempner) has proved of some value in animal experiments but its commercial preparation has not been warranted on account of the rarity of the disease.

BACILLUS PYOCYANEUS.

For a long time it was thought that the "bacillus of blue pus" was of no importance as an infectious agent for man although its pathogenicity for animals had been recognized experimentally. It is found with some frequency in the blood and organs of man at autopsy, when death has resulted from some other infection or chronic disease; in such instances it is supposed that a so-called "agonal invasion" by the organism has occurred. During recent years, however, several cases of primary pyocyaneus septicemia have been observed, the bacillus having been obtained from the blood in pure cultures during life or from the blood and organs shortly after death. It has been found as the sole organism in meningitis and vegetative endocarditis. Some of the cases indicate, however, that a previous lowering of resistance, as in tuberculosis and syphilis, is important for general invasion by the bacillus. It has been found several times in suppurative processes in the middle ear, and would seem to be either the cause or a strong adjuvant in some cases of severe enteritis, especially in children. In systemic infections, the symptoms are typhoidal in character with high temperature, diarrhea and a tendency to the formation of hemorrhages in the skin and internal organs.

Pathogenic Properties.

The *Bacillus pyocyaneus* is widely distributed and that it causes so few infections is probably due to its low pathogenic power. It is an organism of manifold activities. It produces a substance which when exposed to the air, assumes a bluish tint, on which the color of the pus depends. This substance, pyocyanin, is soluble in chloroform from which it

Its Manifold Activities.

1. Other pathogenic organisms, especially *B. enteritidis* and *B. coli communis*, and recently the paratyphoid bacillus, have been found in poisonous meats. The term botulism formerly was applied to various forms of meat poisoning.

may be precipitated in crystalline form. Under proper conditions the organism also forms a fluorescent pigment. It produces a strong peptonizing ferment and coagulates milk. It is rich in autolytic ferments, which digest the bacilli in old cultures. As stated in a previous chapter, Emmerich and Löwe have identified a bacteriolytic ferment, pyocyanase, which dissolves the anthrax bacillus and other organisms. The ferment nature of this substance is in some doubt; it resists the boiling temperature. Dietrich thinks its action is due to the production of osmotic changes.

Ferments.

It secretes a true soluble toxin for which it is possible to obtain an antitoxin, and has in addition an endotoxin for which an antitoxin cannot be obtained. Old cultures contain a hemolytic agent (pyocyanolysin) of an alkaline nature, which resists boiling and is not a true toxin, since immunization with it does not yield an antitoxin.

Toxin and Endotoxin.

The soluble toxin of *Bacillus pyocyaneus* is not produced in large amounts. It differs from the other soluble toxins in its resistance to heat, withstanding a temperature of 100° C. for five minutes. It produces the symptoms which are characteristic of infection with the living organism, the principal anatomic changes being parenchymatous degenerations and ecchymoses, the latter supposedly being due to degenerative changes in the endothelium of the vessels.

By immunizing with young cultures grown on an agar surface a serum which is purely bactericidal is obtained. On the other hand if an older toxin-containing bouillon culture be used, the serum is both bactericidal and antitoxic. The serum which is purely bactericidal has no power of neutralizing the toxin. The toxin solution contains not only the true toxin but also quantities of the endotoxin which were liberated as the dead bacilli were dissolved. On this account the antitoxin fails to destroy the toxicity of the toxin solution completely, and this becomes manifest when to a multiple of the single fatal dose, a corresponding amount of antitoxin is added. Under the conditions a fatal amount of endotoxin may be present even though the true toxin is completely neutralized. Although a strong antitoxin may be obtained it would appear to be of little practical importance because of the rarity of infections by the bacillus.

Antitoxic and Bactericidal Serums.

Infection in man has caused the formation of agglutinin in several instances, but it has been absent in others. An agglutinating serum is readily produced by artificial immunization.

Agglutination.

HAY FEVER.

Dunbar separated from the pollen of various grains a toxin which is able to precipitate typical attacks of hay fever in those who are susceptible, having first demonstrated that the crude pollens cause the disease. The pollen from the following are said to contain the toxin: Rye, barley, wheat, maize (corn), dog's tail, couch-grass, millet, rice and some others. The so-called autumn-catarrh which is common in America may be due to a slightly different toxin coming from the golden-rod or other autumnal flowering grains.

The toxin usually is associated with certain starch-like granules which are contained in the pollen, but it occurs also in pollens which do not contain these granules. It may be extracted with water or salt solution; it is precipitated by alcohol, resists the boiling temperature, and is of an albuminous nature.

The Toxin.

When the crude pollen reaches the conjunctiva, nasal or bronchial mucous membranes, the toxin is dissolved out by the secretions and absorbed by the lymphatics. When applied to the conjunctiva it causes swelling, redness and lachrymation. It is carried by the tears to the nose and here causes excessive secretion, swelling of the mucous membrane and sneezing. It may become distributed systemically as a result of absorption from the free surfaces and cause the asthmatic attacks and general symptoms which are seen in the intoxication. When injected subcutaneously into the arm both the asthmatic attacks and coryza-like symptoms were produced.

Pathogenesis.

Dunbar's antitoxic serum (pollantin) is obtained by the immunization of horses with the toxin. It seems to be of undoubted value in a certain percentage of cases, but fails unaccountably at times. It is, perhaps, most effective when used in the prodromal stage, the attacks being thereby prevented. Its failure in certain instances may be due in part to variations in the efficacy of the antitoxin against the toxins of certain pollens. Again in certain individuals the affinity of the toxin for the tissues may be unusually great so that a more vigorous use of the remedy might have effected improvement.

Antitoxic Serum (Pollantin.)

Lübbart and Prausnitz published statistics of 285 cases of which 65 were autumnal. In ordinary hay-fever the serum gave positive results in 57 per cent., partially positive in 32 per cent. and negative results in 11 per cent. of the cases. In autumnal catarrh, 70 per cent. were positive, 19 per cent partially positive, and 11 per cent. negative.

The small bottles of antitoxin are accompanied by a pipette with which from one to several drops may be instilled into the eye or the nose.

The serum does not cure permanently and one who is susceptible should carry a vial for immediate use during the hay-fever season.

SNAKE-VENOM.

The poison apparatus of snakes consists of a secretory gland on each side which communicates with the tubular fang by means of a duct. In the passive state the fangs are directed backward on the roof of the mouth, but when the animal strikes their points are made to project forward and the poison is forced through the canals by muscular compression of the sac. The venom is a glandular secretion.

The venoms of different snakes vary a great deal in their toxic properties. The most important constituents are those which attack the nervous system (neurotoxin), the blood corpuscles (hemolysins and hemagglutinins) and the endothelium of the blood vessels, causing hemorrhages (hemorrhagin, an endotheliotoxin. The three are independent.

Toxic Constituents.

The neurotoxin causes death by paralysis of the cardiac and respiratory centers. The hemolysin appears to be of less importance as a cause of death.

The venoms of the cobra, water-moccasin, daboia and some poisonous sea-snakes are essentially neurotoxic, although they have strong dissolving powers for the erythrocytes of some animals. In studying the hemolytic powers of the venoms of cobra, copperhead and rattlesnake, Flexner and Noguchi found cobra venom to be the most hemolytic and that of the rattlesnake the least. They attribute the toxicity of rattlesnake poison chiefly to the action of hemorrhagin. The same authors studied the action of different venoms on the cells of various animals and by absorption experiments found independent cytotoxins for the testis, liver, kidney and blood. Not only was there a distinct cytotoxin for each organ of an animal, but also for the same organ of different animals, results which speak for a remarkable complexity of venom. Certain venoms contain a leucocytic toxin.

Variations in Toxic Properties and Cytotoxins.

That venoms contain proteolytic ferments is shown by their ability to digest gelatin and fibrin. This power may be related to the softening of the muscles which has been noted clinically in cases of poisoning. The rapid decomposition of the body which follows death by snake-poisoning is associated with a decrease in the bactericidal power of the blood, which, according to Flexner and Noguchi depends on fixation of the complement by the venom.

Ferments.

The hemolysin and neurotoxin, and perhaps other cytolysins of venom, consist of amboceptors which in themselves are non-toxic; they become toxic only through the aid of complements which are present in the body of the poisoned animal. In this instance, complement which usually is a source of protection becomes a source of danger to the animal possessing it. Not only does ordinary serum-complement serve for activation, but Kyes discovered

Amboceptors and Complement.

that cells (erythrocytes) may contain another kind of complement, an "endocomplement," which activates the amboceptors after the latter have combined with the cells. Flexner and Noguchi found that this also was the case with the neurotoxic amboceptors.

Cobra-lecithid.

Kyes showed that the endocomplement of erythrocytes which activates the hemolytic amboceptors consists of lecithin, and in the reagent glass was able to bring about chemical union of the hemolysin and lecithin: the product is called cobra-lecithid. A solution of lecithin in chloroform is shaken for several hours with a dilute solution of venom. During this time the hemolysin has combined with the lecithin, and when the chloroform is drawn off and mixed with either, the cobra-lecithid comes down as an amorphous precipitate. It may be further refined but its exact chemical nature appears to be undetermined.

This treatment accomplishes another important result in that the hemolysin is separated quantitatively from the neurotoxin, the latter remaining in the watery solution. Immunization with the neurotoxin isolated in this way causes the formation of a specific antineurotoxin (Elliot.) The neurotoxin may also be abstracted from the venom by treating the latter with the nervous tissue of a susceptible animal (Flexner and Noguchi.)

The hemolysin is distinct from the hemagglutinin and the latter may be eliminated by treating the venom to from 75° to 80° C. In the action of venom on erythrocytes agglutination precedes hemolysis.

Toxoids and Antivenins.

The toxins may be converted into toxoids by heat or treatment with chemicals. Immunization with toxoids causes the formation of antitoxins. Radium is said to destroy the toxicity of venom (Phisalix). The antivenin of Calmette is obtained by the immunization of horses with a mixture of venoms (80 per cent. cobra, 20 per cent. viperine venom) which are attenuated before injection. Six months are required to produce a strong serum. The claim of Calmette that his serum is effective against all snake-venoms is erroneous. It neutralizes those venoms the toxicity of which depends largely on neurotoxins and hemolysins, but has little influence on rattlesnake poison the essential toxin of which is hemorrhagin. Antivenin for the rattlesnake and water-moccasin may be prepared by immunization with the corresponding venoms which have been attenuated by weak acids. Noguchi has produced serum of such strength that it promises to be of practical value in the treatment of rattlesnake bites.

As indicated previously, the action of venom is preceded by no appreciable incubation period, hence an antitoxin to be effective must be administered not later than a few hours after the bite has occurred. Noguchi found in relation to antivenin for the rattlesnake that the antitoxin necessary to save was quadrupled three hours after intravenous injection of two fatal doses of venom. Fortunately the venom is less toxic when introduced subcutaneously.

Clinical Reports

FIVE CASES OF PFEIFFER'S GLANDULAR FEVER ("DRUESENFIEBER").

HELIODOR SCHILLER, M.D.,
CHICAGO.

INTRODUCTION.

During the latter part of April and May, I saw five cases of the so-called "Pfeiffer's *Druesenfieber*," or as Neuman called it—idiopathic swelling of the glands of the neck. All these cases lived in the same ward of the city, and several physicians told me that they had similar cases at the same time. Hence I am justified in speaking of a real epidemic of "Pfeiffer's *Druesenfieber*."

NARRATION OF CASES.

I shall select and describe three of my cases, and will then endeavor to draw some conclusion concerning the character, the pathology and course of this not at all well-known disease.

CASE 1.—April 6 I was called to visit a girl 12 years old. The mother told me that the child had complained of chills and headache the day before and the following morning of a pain in her throat. The evening before they had perceived a swelling on both sides of the neck.

Examination.—I found the temperature 101.8 degrees, the pulse 108. The tonsils were red and somewhat enlarged. The whole throat was red and on the right arcus palatoglossus was a yellow spot the size of a pea surrounded by a red arc which looked aphthous. The glands on the right side of the neck were somewhat enlarged; those on the left swollen to the size of an apricot, especially the glands on both sides of the proximal part of the sterno-cleido-mastoideus, and there again the posterior ones were very much swollen, of rather hard consistency and not very tender. There was no exanthema on the skin or mucosa of the mouth nor was there a scarlet tongue. A smear and culture taken from the above described spot showed streptococci. There was pronounced breathing through the mouth. The mucosa of the anterior part of the nose was red but otherwise normal. The heart, lungs and other organs were found normal. The general condition of the patient was not impaired. Urine was normal.

The whole picture, while apparently that of nothing else than a streptococcus angina, nevertheless looked different than this disease in that the rather sudden and immense swelling of the glands with rather mild changes in the throat and the small tenderness of the glands clearly pointed out that we had more than a common sore throat to deal with.

Course of Disease.—On the following day the symptoms were still milder. The highest temperature was 101 degrees; the pain in the throat had lessened, the neck hurt only in moving, but the swelling of the glands, while larger, was, however, not more painful.

The third day brought somewhat higher temperature, 102.4 degrees, pulse 96. The redness in the throat and the yellow spot had nearly disappeared. The spleen and liver could be felt enlarged. The size of the swelling of the glands was the same. The child felt very well, although an obstinate constipation caused some trouble. The urine was found normal.

On the fourth day the highest temperature was 99.8 degrees. On the fifth day 101 degrees. The swelling of the glands, concerning mostly the glandulæ cervicales, but also the jugulares, was a little larger than a boy's fist.

On the sixth day the highest temperature was 100.2 degrees. On the seventh day the mother called me and said she thought her daughter must have matured in that the urine looked bloody. The napkin which was applied, however, did not become stained. The examination of the urine showed 0.2 per cent. albumin, many white and red blood cells and some blood casts. The amount of urine during the next twenty-four hours was six ounces. It was of a reddish color, showing the typical microscopic picture of a most acute hemorrhagic nephritis. On the eighth day the temperature was 103.2 degrees. The spleen and liver were very much enlarged and soft. The abdomen was somewhat tender, the mucosa of the throat normal.

The glands on the right side were a trifle smaller, but those on the left more swollen and more tender, but still hard. A somewhat sero-purulent discharge of the nose appeared. The general condition and appearance of the patient was rather good. The microscopic examination of the discharge from the nose showed diplococci and streptococci, but neither diphtheria nor influenza bacilli. The patient was lively and did not complain much.

The ninth day did not bring much change. Eleven ounces of urine of the same nature as before were passed in twenty-four hours. On the tenth day thirteen ounces; on the eleventh day thirty-four ounces, and on the twelfth fifty-two ounces, containing an enormous amount of epithelial blood and granulated casts. The temperature still reached 102.4, the swelling of the glands was somewhat reduced, the consistency hard and tender, but not as much so as swollen glands in case of angina. The spleen and liver were reduced in size. Very obstinate constipation was present, but the general condition of the patient was good.

April 27 the temperature, after a lytic declivity, was normal as was also the urine. The spleen and liver could not be palpated any longer and still the glands were swollen and hard and somewhat tender.

By June 21 the glands were reduced to the size of a bean, but were no longer painful or tender. The glands just behind the proximal part of the left sterno-cleido-mastoideus was the most persistent and is still the largest. The glands on the right side had disappeared entirely.

CASE 2.—A boy eight years old, recently arrived from South Africa, lived two blocks south of the first patient. His attack began with fever, headache, weakness, vomiting and slight pain in the neck and throat.

Examination.—When I saw the patient May 10, two days after the onset of the disease, his temperature was 103.8 degrees; his pulse 134. He looked very sick. His tongue was rather dry, the tonsils, and especially the throat, were red and swollen. The glands on both sides of the neck, but especially those on both sides of the proximal part of the left sterno-cledio-mastoideus were very much swollen, of a harder consistency, and somewhat tender. The mother says that the glands were swollen before the boy even complained of the pain while swallowing. No exanthema was present on the skin or mucosa of the mouth.

The microscopic examination of a smear taken from the tonsils showed streptococci and bacilli, which seemed to be Pfeiffer's influenza bacilli. No diphtheria bacilli could be seen. No culture was made in this case.

Course of Disease.—During the next five days the temperature fluctuated between 102 and 105 degrees, and the pulse between 118 and 142. The spleen and liver became rapidly enlarged, the abdomen tender, the glands on the neck swelled to the size of a medium large orange, and the single glands could easily be isolated and felt. A mouth breathing and obstinate constipation could be observed. The heart and lungs were found normal; the urine also normal.

On the fifth day the urine became bloody and on the sixth day showed all symptoms of an acute hemorrhagic nephritis. The amount of urine during the next twenty-four hours was eight ounces; on the seventh twelve ounces and on the eighth sixteen ounces. The temperature on the morning of the eighth day fell to 101 and rose in the evening to 104 degrees. The pulse varied between 118 and 140 degrees. Constipation and mouth breathing continued. The throat, however, was normal again. There was some seropurulent discharge from the nose containing influenza bacilli. The spleen and liver were still very much enlarged and one and a half inches below the arc of the ribs inpalpable. The general condition was rather serious. The patient had no appetite and refused all nourishment. Gradually the condition of the urine became better, but the swelling of the glands remained the same. The fever did not disappear; on the contrary increased to 105.1 degrees May 26. The tenderness of the swelling on the left side increased, while the swelling on the right side gradually disappeared. In spite of the fact that no fluctuation could be felt, and that the glands felt rather hard, a trial puncture was made, and in a depth of nearly one and one-half inches pus was found. Along the needle an incision was made and a deep abscess opened and about two teaspoons of thick pus removed and drains applied.

The pus contained pure cultures of influenza bacilli. Nevertheless the fever and swelling of the glands did not decrease. In fact the condition of the urine became worse at times. The fever did not disappear until June 11. The urine contained albumin until June 5. At present the glands have their normal size.

CASE 3.—A girl eleven years old and living one block south of Case 1, fell sick May 23. Her case also started with chills, pain in the abdomen, neck and throat. Shortly after the beginning of the disease the mother observed a swelling on the neck.

Examination.—I saw the child the same afternoon and found her temperature 102.6 degrees, her pulse 118. The tonsils and mucosa of the throat were red and the glands of the left neck, especially the cervicales, were greatly swollen and somewhat tender. There was no exanthema. A smear taken from the tonsils showed staphylococci, diplococci and influenza bacilli, but cultures made two days later did not show influenza bacilli.

Course of Disease.—For three days the temperature stayed between 102 and 104 degrees and disappeared lytically. On the seventh day the temperature was normal. The swelling of the glands stayed for two weeks. The spleen and liver were swollen, but no albumin was found in the urine. Constipation was not so marked in this case, but breathing through the month and discharge from the nose was evident. The other two cases were on the same order as case three; but no influenza bacilla were found.

RESUME OF CASES.

A short résumé of these three cases shows us that this disease begins with chills, headaches, fever, sometimes vomiting, pain in the throat, and that there follows, shortly after the onset of the disease, swelling of the cervical glands, and especially of the glands behind and before the proximal end of the sterno-cleido-mastoideus; that the disease is accompanied by fever, and in severe cases acute hemorrhagic nephritis occurs in the early stages, that is, from the fifth to the eighth day; the spleen and liver become enlarged, the swelling and redness of the tonsils and throat disappear rapidly after from three to five days, while the swelling of the glands stays for weeks. The tumor of the glands has a rather characteristic form. There is no marked periadenitis. Each gland can be palpated separately. The glands feel rather hard and not very tender; the tenderness cannot be compared with the tenderness of glands accompanying tonsillitis. No exanthema is found on the skin or in the mouth.

DIAGNOSIS.

Diphtheria could be excluded as could also tuberculosis, as the whole course of the disease pointed against tuberculosis infection in that the glands disappeared soon entirely, a thing which does not occur in a case of tuberculosis after an elapse of only a few weeks. The picture of this disease is so entirely different than that of tonsillitis or any other disease in the throat that it would be useless for me to mention all the differences. We have here the picture of a general infection, a sepsis, starting from some place in the throat, then quickly involving the cervical glands of the neck and in turn the whole body with acute tumor of the spleen and liver; and in severe cases with most acute nephritis. Glands other than those of the neck have not been found involved.

Some authors claim that the tenderness of the abdomen is caused by the swelling of the mesenterial glands, but as postmortems are lacking, we cannot confirm this statement. We do know, however, that in typhoid fever the enlarged mesenterial glands do not produce a marked tenderness.

Each of these three cases had somewhat enlarged hypertrophic tonsils. In three of these case I found in a previous examination the nasopharyngeal space full of adenoid vegetations.

There is no doubt that the infection starts either from the throat, tonsils or the nasopharyngeal tonsil without causing any pronounced local affection except a local redness. The involved glands speak more for the latter place.

The microscopic examination in one case showed streptococci; in another, influenza bacilli, as well in the nose and throat as in the pus of the glands; while the third showed staphylococci, streptococci and influenza bacilli in the throat.

I am sorry to say I could not make any blood cultures, as in private practice such things are not easily possible. While there is no doubt as to the nature of the disease and the place of infection, there has been nothing definite found that would give us an idea as to the cause. Further clinical examinations will in all probability throw a light on this. The presence of influenza bacilli is certainly very interesting. They would at the same time easily explain the epidemic character of the disease and the rarity of suppuration.

Not one of my cases was deadly, nor did a death occur among the several cases reported in the literature, in spite of the fact that the character of the disease in some of them was very serious.

Some authors lay stress on the constipation, believing that the infection occurred from the intestines. This, however, was

at the time when the intestines were accused of everything during childhood.

The treatment applied was inunction with Credé's ointment and treatment of the accompanying nephritis.

This should only be considered a preliminary report. In the near future we hope for more detailed reports from physicians who have hospitals near at hand with better opportunities for closer examinations and clinical investigations.

FRACTURE OF PATELLA.

RESTORATION OF FUNCTION IN SPITE OF NON-TREATMENT.

J. B. CUTTER, M.D.
Surgeon in Charge Santa Fe Coast Lines Hospital.
ALBUQUERQUE, N. MEX.

J. L., Mexican, laborer, aged 40, entered Santa Fé Hospital April 17, with fracture of left patella at lower one-third.

After remaining in bed until April 20, when the extreme effusion had somewhat subsided, on being told of the length of time necessary for repair, entailing several weeks' confinement to bed, the patient precipitately left the hospital, refusing further treatment or advice.

On May 23 he again presented himself at the hospital for the necessary certificate of discharge for reinstatement in his position. The leg had been in constant use in the interim. No effort at treatment or immobilization having been made.

In the absence of effusion, the deep sulcus separating the fragments was clearly demonstrated, the distance between the fragments being about three-quarters of an inch, with apparently a thin band of ligamentous union present. The function, however, was remarkably good, there being almost complete extension and no inconvenience in walking.

The question naturally arises, how much or how little advantage is gained by the conventional period of rest in the recumbent position, usually prescribed in the expectant or non-operative method of treatment of fracture of the patella?

EXOMPHALOS SUCCESSFULLY OPERATED ON.

I. F. HICKS, M.D.
DUNN, N. C.

Umbilical hernia occurs in three different forms:

1. The umbilical hernia of infants and young people, due to the weakening of the umbilical cicatrix, which yields before intra-abdominal pressure. This condition rarely persists until adult life and is readily amenable to treatment.

2. The umbilical hernia of adults, usually due to a protrusion of omentum or intestine through an opening in the linea alba either just above or below the umbilicus. This form usually requires operative treatment.

3. The congenital umbilical hernia, or exomphalos, which is an exceedingly rare condition due to the imperfect closure of the abdominal walls, as a result of which the intestine is not entirely withdrawn into the abdomen at birth, but is found in a cavity at the base of the umbilical cord, which is bulbous and enlarged. If the condition is overlooked it may be included in the ligature with which the cord is tied, causing fatal strangulation or a fecal fistula at best. If left untreated until the cord is separated, the peritoneal cavity will be laid open and septic peritonitis will ensue. The only treatment is immediate laparotomy, reduction of the intestine and closure of the umbilical opening by sutures.

Exomphalos is subdivided into different forms by some authors, the classification depending on the degree and amount of intestine protruded. The case reported in this paper was one of the most serious, the hernia being strangulated, invaginated and irreducible.

History.—The infant was assisted into this world by an old midwife, who had the good judgment, however, to tie the cord above the enlargement. Strange to say, the cord did not separate until the twelfth day, leaving the knuckle of intestine unprotected. The wise old midwife told the parents the condition was not uncommon, that she often treated them and ordered that the tumor be covered with a vaselin cloth until it "dried up." The hernia grew larger every day, but Nature came to the rescue of the infant by adhesions taking place between the outer layer of intestines and the edge of the umbilical ring, thus closing in the abdominal cavity; invagination continued to take place, however, by means of the inner coil of intestine forcing itself outward until strangulation and adhesions took place between the layers of the invaginated portion.

Consultation.—About the fifteenth day, two fecal fistulæ were found, one at either end of the T-shaped protrusion. Dr. S. P. J. Lee was called in on the seventeenth day, and requested Dr. O. L. Denning and myself to assist him operate; this we did on the eighteenth day.

Operation.—On examination, the invagination was found to be irreducible and strangulated from constriction at the umbilical ring, so the adhesions at this point were broken and a laparotomy performed. About six or eight inches of the ileum were resected and the divided intestine was fixed by enterorrhaphy and simple suturing, i. e., the ends were brought together and stitched with Lembert sutures. After this the mesentery was stitched where a V-shaped portion had been removed; the intestines were replaced and the operation completed by stitching the peritoneum and closing the abdominal wall. The bowels were kept locked by opiates for six days, when the infant had a natural evacuation, and since then has had an uneventful recovery.

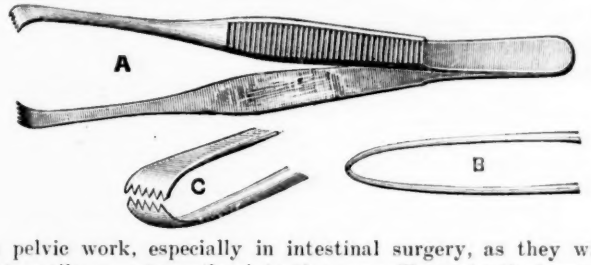
This case is reported on account of its rare occurrence and the almost universally fatal termination. The success attending this operation, which was done under adverse circumstances, should be an incentive to others not to give up hope as long as life exists in the patient.

New Instrument

THE COLUMBIA TISSUE AND INTESTINAL FORCEPS.

I. S. STONE, M.D.
WASHINGTON, D. C.

The accompanying cut shows a most satisfactory pair of forceps for general and special surgical work. They have been used at the Columbia Hospital for many years and have heretofore been made to order by instrument makers, but do not appear in any instrument catalogue nor have they ever been described, as far as I know. These forceps are valuable



in pelvic work, especially in intestinal surgery, as they will not easily puncture the intestine as will rat-tooth forceps. In fact, they are like the delicate finger touch which permits handling without injury. The arms open widely above the teeth, allowing plenty of space for grasping sponges or larger portions of muscle or fat, or the handling of any organ within the abdomen. They are six inches in length, but longer forceps can be made as ordered.

Apocynum Cannabinum.—In malarial conditions with torpid liver, in jaundice, in all cases where there is a sallow, yellowish skin, with foul tongue and clay-colored feces, it has a peculiarly happy effect. In fact, in all so-called bilious conditions it is almost a specific. It unlocks the secretions of the liver, secures a free discharge of bile, and becomes, if pushed, an efficient cathartic, although it is primarily an ideal cholagogue.—G. S. Chalmers, of Galesburg, Ill., in *Therapeutic Gazette.*

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NERVOUS STRAIN.

It seems to afford a kind of pleasure to this generation to look on itself as the victim of high pressure. We hear much on all sides of the hurry of the time, of the pace that kills, and of the disturbing and demoralizing effects of modern industrialism and commercialism. There is no lack of remedies for the existing order. We are told that we must concentrate, not dissipate, our energies, that we must forsake city life and return to nature in the guise of a $60,000 farm, or at least of a commuter's garden; that we must altogether give up trying to be rich and must rest content with the common lot. It is no wonder that a dazed old lady was heard to remark: "A little while ago we had to live the strenuous life, then it was the simple life, and now it is the equitable life."

Yet the feeling that life for most involves a large measure of struggle and output of nervous energy is not peculiar to our time. Each generation looks back with longing on the calmer life of its predecessors. There are those who think they would prefer the relative absence of "modern conveniences" enjoyed by our immediate forefathers. Mr. Austin Dobson has cast a glamour of sentiment over "stage-coach days" and "tea-cup times" that almost persuades us that travel by steam and conversation by telephone are the main causes of modern unrest. Seventy-five years ago, however, we find Sainte-Beuve writing with a touch of envy of the earlier and more placid times of Madame de Sévigné, and regretting that "the world moves so fast in our day." So it seems always to have been. The time in which a man lives appears to him full of intense activity, crowded with sense impressions and their appropriate reactions, and he is ready to fancy that his predecessors experienced no such flood of new sensations and were not subject to the wear and tear that he feels so keenly. As a matter of fact, has life ever been really exempt from stress? Someone has remarked that the rival monsters of cretaceous days would probably have expressed the opinion if the opportunity had been granted them that their own age was one of nervous strain.

It is possibly true that we of the present day are more definitely aware of the sources of anxiety and trouble, that we are more alive to the reports received and answers given by the central nervous system and that "strain" is more of a reality to us than to a less subtly molded race. James has somewhere referred to the case of a Russian peasant who, catching his thumb in a cleft tree in the forest and being unable to release himself or to obtain help, pulled his hand away, leaving thumb and tendons behind, much as a wild animal might do. Such an exploit would doubtless be impossible to a more "nervously" constituted individual. The question here is: Are we able to demand from our nervous systems as much as our less civilized progenitors?

After all, however, the truth may be that we are inclined to attribute to nervous wear and tear and to an overwhelming multitude of sense impressions, ills that actually are due to other causes. Modern life is a pretty complex affair and it is not easy to analyze it into the factors that tend to modify human existence. How little is known, for example, about the influence of the sedentary occupations which have replaced outdoor activity to so unprecedented an extent in the modern world. Again, until very recently no serious attempt had ever been made to discover the effect on the general health of the town-dweller produced by the smoke and dust which irritate his mucous membranes and assail his sense organs so great a part of the time; in a degree, the mechanism of disturbance is of a nervous character, but this factor is not ordinarily considered as entering into the causes of nervous breakdown. Once more, how profound is the depth of our ignorance in respect to the effect on health of the relative cheapness, abundance and variety of foods now available to the moderately well-to-do. If the pleasures of the table are more common and tempting than ever before, to what extent is this fact responsible for ailments sometimes classed as nervous and ascribed to high pressure?

The root of the matter is that neither modern life nor urban life is to be blamed indiscriminately for what is popularly denominated nervous strain. If certain factors at present little studied and poorly understood are tending to increase diseases of a nervous type, they may be found on investigation to be such as lie within the control of the individual more commonly than has been supposed. There is still room for him to consider what the Roman emperor meant who said that even in a palace life may be led well.

DECLINING VIRULENCE AND ADVANCING PARASITISM.

In our discussions of infectious diseases in their various aspects, we generally assume the attitude of an observer at close range whose field of vision fails to include many features of general interest. The biologic problems, for instance, presented by pathogenic bacteria in their adaptation to parasitic existence are quite likely to escape the attention of the physician who is more directly concerned with the immediate outcome of actual infections; yet problems of this kind offer many attractive subjects for thought to those who wish

to go below the surface of the things with which they are dealing. In his address before the Congress of Arts and Science in St. Louis last fall, Theobald Smith discussed certain phases of microbic parasitology from the broad biologic or comparative point of view in a way that can not but interest many physicians and place more or less familiar phenomena in a new light.[1]

In the first place, Smith points out a phase in the life history of pathogenic microbes that has not received much consideration, namely, that in order to preserve the species in accord with general biologic laws, microbes as they adapt themselves to parasitic life gradually eliminate aggressive weapons, such as free toxin production, which may have been an entering wedge, because they are of no direct benefit to them, inasmuch as destruction of the host lessens their opportunities to perpetuate themselves. In support of this view, it is pointed out that strictly invasive bacteria—tubercle bacilli, typhoid bacilli, glanders bacilli, etc.—do not produce diffusible toxins, the injury, often largely local, produced by these organisms being caused rather by poisons set free on disintegration of their bodies, whereas the toxin-producing bacteria—diphtheria bacilli, tetanus bacilli—in reality are not invasive bacteria, but live on the surface of the body, or, as in case of the tetanus bacilli and other spore-bearing organisms, produce disease, so to speak, accidentally, and not as progressive parasites, because their continued existence may be regarded as assured by vegetation and spore formation outside of the body. Microbes that are able to defend themselves against the destructive efforts of the host produce chronic diseases like tuberculosis, leprosy and glanders. Others that lack the means of successful defense are either destroyed or adapt themselves to live on the skin or mucous membranes whence they may, as special opportunities offer themselves, enter the tissues as "occasional disease producers."

In connection with this it is of special interest to note the excellent mechanisms of elimination of many microbes, so far as continuing the life cycle in new subjects and thus perpetuating the species is concerned. In diphtheria, pneumonia, typhoid fever, dysentery, cholera, gonorrhea, influenza, the acute eruptive diseases, etc., the specific organisms either from the beginning or sooner or later reach the surfaces of the body, whence they are passed on to other hosts by different methods of direct or indirect contact. Smith believes also that certain bacteria after a period of active vegetation may pass into a latent stage provided with a protective envelope which enables it to pass to a new host at the same time as the metabolism of the bacterium and consequent diseases are suspended. This hypothesis suggested itself to him as he studied the gradual adaptation of bovine tubercle bacilli to vigorous growth in artificial media; the protective substance being assumptively slowly lost.

Smith explains the fact that the mortality rate of human infectious diseases always show that the odds are against the invading microbe in this interesting way: The more virulent the microbe, the more rapid the death of the host and the less the opportunity for escape. Consequently, there will be a selection in favor of those microbes that vegetate slowly and in tissues situated so that they can escape to new hosts. As this process of selection of the less virulent races, accompanied with the gradual weeding out of the most susceptible hosts, continues, the mortality from infectious diseases falls, without necessary diminution in morbidity. Pasteur's failure to exterminate the rabbits of Australia by means of a highly virulent bacillus of rabbit septicemia may be accounted for by the fact that the stricken rabbits, with their blood full of bacilli, offered no means for inoculating others and hence the virulent race of bacilli perished. We know that the pandemics of influenza soon give way to sporadic cases and now the influenza bacillus seems to play the rôle of a secondary invader in many of the respiratory diseases.

Many other interesting points in this remarkable address can not be recapitulated at this time. We see clearly that the microscopic parasites offer complex problems similar to those of higher forms of life; problems the continued study of which by able thinkers may lead to the formulation of broad generalizations and laws of direct interest to medical men. We believe that Smith has indicated the existence of a law of this kind that will help us to understand better certain aspects of infectious diseases, namely, the law of declining virulence, and hence mortality with an advancing parasitism.

1. American Medicine, 1904, vol. viii, p. 711.

THE SMEGMA BACILLUS AS A DISTURBING FACTOR IN THE DIAGNOSIS OF GENITOURINARY TUBERCULOSIS.

The use of bacteriology by the clinician while of great value is fraught with danger to the uninitiated. In no case is this more true than in tuberculosis, for, when the tubercle bacillus was first discovered it was unique in its tinctorial reactions, and, though other "acid fast" organisms have been discovered since, the knowledge of them has not as yet become widely diffused among the profession. Some of these bacteria occur in diseases which, like leprosy, are rare among us, and so are of no practical importance to the clinical pathologist. A few, like the organisms occasionally found in the sputum in pulmonary gangrene, may be misleading, though very rarely so. One acid-fast organism, the smegma bacillus, may lead to the gravest mistakes in the diagnosis of genitourinary tuberculosis. This organism was first discovered as a result of the investigations which followed the announcement by Lustgarten of his discovery of the cause of syphilis.

Whether or not Lustgarten's bacillus and the smegma bacillus are identical, is still more or less a matter

shrouded in mystery, though it seems likely that the organisms are the same. Whether the smegma bacillus represents a single organism is also doubtful, the great variation in morphology suggesting that it does not. The important point to be kept in mind is that the organism is more widely distributed over the body than was at first thought, and that with the ordinary methods of staining it resembles the tubercle bacillus. Of especial importance is the fact that the smegma bacillus is found, often in large numbers, beneath the prepuce in the male, and about the vulva and clitoris in the female, and that from these places it can gain entrance into the urine and thus be mistaken for the tubercle bacillus.

Many of the text-books on bacteriology assure us that the smegma bacillus can be differentiated from the tubercle bacillus both morphologically and by its staining reactions. Those who care to look into the voluminous literature of the subject will soon discover that nearly every writer has a method of differentiation of his own, and incidentally states that other methods are of little or no value. The conclusion to be drawn is obvious; none of the reported methods of differentiation are invariably sufficient. While in the majority of cases an experienced bacteriologist can probably differentiate between the two organisms, there are cases in which such differentiation is impossible except by animal inoculation, and even this occasionally fails. This is due to the fact that some smegma bacilli resemble tubercle bacilli and have exceptional resistance to acids, while on the other hand, some tubercle bacilli decolorize with exceptional facility, especially in alkaline urines.

So far as the female is concerned, the difficulty of excluding smegma bacilli is very great, as the shortness and size of the urethra permit their ready introduction into the bladder, and catheterization instead of eliminating the error may even increase it. In the male the danger of large numbers of smegma bacilli getting into the urine is less, though as Young and Churchman[1] have recently shown, this is far from being a negligible quantity. These writers have shown that even the cystoscopic examination may be deceptive in cases simulating tuberculosis clinically and in which there are smegma bacilli in the urine. From the study of a large number of cases, these observers conclude that the danger of confounding smegma and tubercle bacilli in the male can be eliminated by very careful cleansing of the glans, followed by careful urethral irrigation, after which the urine may be passed without danger of contamination. The smegma bacillus invades the male urethra in but small numbers, and is not found in the normal posterior urethra or bladder. It is in patients with small numbers of tubercle bacilli in the urine, however, that a certain diagnosis is most necessary, and the method of Young and Churchman seems to make this possible.

1. Amer. Jour. of the Med. Sciences, July, 1905.

YELLOW FEVER.

The yellow fever situation in New Orleans became rather serious during the week. Up to August 1 there had been reported 304 cases, with 62 deaths. Unfortunately the disease has spread to three points in the new American quarter of the city and to at least three outside parishes. Alarmed residents are leaving for the north, and the city's commerce is at a standstill on account of quarantines. As not all newspaper tales are to be believed, possibly no credence is to be given to that one which lends a ray of humor to the otherwise grave plight of the city, and which alleges that to combat the infected Louisiana mosquitoes Governor Vardarman of Mississippi has ordered the state artillery to the Louisiana frontier. In one of the reports of the Board of Health there appeared the significant statement that it seems probable that yellow fever has existed since May among those Italians so ignorant that they do not call a physician when ill. The difficulties met by the health authorities in the way of cleaning up ancient, overcrowded dwellings and caring for their infected, poverty-stricken inhabitants are tremendous. The business men are circulating a petition asking that the United States Public Health and Marine-Hospital Service be requested to assume full control of the situation. As noted last week, a most commendable harmony of effort prevails as between the local, state and federal officials. A remarkable and relentless popular war is being waged against the mosquitoes, the community having with unusual readiness accepted the new etiology of the disease. Under the conditions existing in New Orleans, stamping out the epidemic will be a great sanitary triumph. Medical men everywhere have strong sympathy for those physicians actively engaged in the conflict.

ANOTHER INSANITARY CONDITION.

The *Scientific American* calls attention to the danger attending the wearing of adulterated leather. A large amount of cheap leather is weighted with glucose and barium, especially the latter, so that when the weight test is applied such adulterated leather may pass as first-quality material. Leather so treated, however, has the peculiar quality of absorbing moisture freely and retaining it to an extreme degree. The result is that a shoe made of this chemically-treated material is in actuality never dry. Even in the driest weather the perspiration of the feet is sufficient to render the footwear dangerous, as such natural moisture collects on the inner sole. Day after day, it seems, some new point is brought up concerning which commercial enterprise makes it necessary for the physician to be on his guard.

A WARNING.

We find it necessary again to warn members and subscribers not to pay money to unauthorized persons. Some physicians in Iowa report payment of money to one W. H. Taylor, who is not an agent of THE JOURNAL. Each agent of THE JOURNAL who is authorized to make collections carries a letter written on JOURNAL paper introducing him by name and stating that he is authorized to receive money. This is duly signed and bears the official seal of the American Medical Association.

SANITATION AND SUBSISTENCE AT PANAMA.

Important as is the reformation of the sanitary conditions on the Panama Isthmus, a corollary well worth all serious attention is the feeding and housing of the large body of working men soon to be engaged there. The *Army and Navy Journal* makes a very sensible suggestion, that, inasmuch as it was a logical step to turn over the matter of sanitation to the Medical Department of the Army, it would be appropriate also to give to the subsistence department the care of the vast number of employes. Experience in the Philippines indicates the ability of this department to accept such a problem. Our contemporary referred to above declares that the army ration used in the Philippines is equal and possibly superior to that of any other army in the world. It is certainly not desirable to have the feeding of our Panama laborers farmed out, with the caterer's profit and not the health of the employes the first consideration. The suggestion is a good one.

SURGICAL PRACTICE ON THE LOWER ANIMALS.

It is reported that one of the leading medical schools of the East has adopted the plan of using the lower animals for surgical practice by students and that the method is found to have some decided advantages over the use of the cadaver for this purpose. Of course the anatomic conditions are not the same, but operating on a living animal will require the same conditions of asepsis and technic as would be adopted with a human being, and is, therefore, more instructive to the incipient surgeon. So far as possible all the formalities that are observed with the human being are practiced, clinical histories are kept, effects of anesthesia are noted and in case of a death of the subject a formal autopsy is made and added to the records. We do not see why this is not a thoroughly rational method of instruction and we will not be surprised to see it adopted by many other institutions. Of course, it need not entirely displace operations on the cadaver. The two methods can usefully supplement each other. When we consider how many valuable surgical operations have previously been tested on the lower animals before they were first attempted on the human subject it is a little surprising that this method of instruction has not been earlier and more generally adopted.

A FAMILY TRAGEDY.

The following is a true tale of a recent happening in an American city. It is a good story to relate to patients and legislators in the campaign against nostrums and against adulterated foods and drugs. A respected clergyman fell ill, and the family physician was called. After examining the patient carefully, the doctor asked for a private interview with the patient's adult son.

"Harry," said the doctor, "do you know what is the matter with your father?"

"No. We sent for you to tell us that."

"Well," the physician said, "I am sorry to tell you that your father undoubtedly is suffering from chronic alcoholism."

"Chronic alcoholism! Why that's ridiculous! Father never drank a drop of liquor in his life, and we know all there is to know about his habits."

"Well, my boy, it's chronic alcoholism, nevertheless, and at this present moment your father is drunk. How has his health been recently? Has he been taking any medicine?"

"Why, for some time, six months I should say, father has often complained of feeling unusually tired. A few months ago a friend of his recommended 'Peruna' to him, assuring him that it would build him up. Since then he has taken many bottles of it, and I am quite sure that he has taken nothing else."

In this connection it might be added that a very prominent anti-saloon worker, a clergyman, lately said that in shame he was compelled to admit that he had run across indubitable proof that there are ministers of the gospel who receive pecuniary commissions from the makers of alcoholic nostrums whose wares they recommend! Than this there can be no worse form of graft. The time is here for the organized profession to join hands with all other workers and organizations, whether anti-saloon leagues, temperance unions, or courageous anti-nostrum publications, to set a definite limit to the progress of respectable and innocent intemperance.

BRAIN TUMORS AND BRIGHT'S DISEASE.

At first sight there does not seem to be much chance that two such pathologically different conditions as intracranial tumor and Bright's disease could be confounded, and yet the error of mistaking one of these conditions for the other is not very uncommon. After all, the two conditions have many symptoms in common, especially if a brain tumor be in a so-called silent region. In both there may be headache, vomiting, eye changes, and even localizing symptoms, such as unilateral convulsions or hemiplegia. It is true that in certain forms of Bright's disease, those in which there is edema, anemia, and large amounts of albumin in the urine, mistakes are not likely to occur, but in the chronic interstitial form, in which edema may be slight or absent, and in which the urine may contain little and at times no albumin, the matter is not so simple. The differentiation is still further complicated by the fact that in certain cases of nephritis the eye lesions are not those usually associated with Bright's disease. The white patches in the neighborhood of the macula, the retinal hemorrhages, the vascular changes, in short, the lesions described as albuminuric retinitis, may be absent, and in their place the choked disc so commonly associated with intracranial pressure may occur. The fact that choked disc is not so very common in nephritis has hardly yet been realized by the majority of practitioners, though it was emphasized many years ago in this country by Burr, and has recently been called attention to by Bramwell.[1] The fact of the matter is that we are too apt to make our diagnoses on a few prominent symptoms, and if these are very apparent we often allow them to lull us into a state of diagnostic security, and fail to carry out a routine examination. All the facts in a given case must be considered before

1. Clinical Studies, vol. III, part 2.

a definite conclusion can be reached when there is a question between the two conditions mentioned. Not only the presence of albumin and casts in the urine, but also its daily amount, its color, and its specific gravity are of importance. In just those cases of Bright's disease in which the urinary findings are difficult of interpretation we are apt to get marked cardiovascular changes, thickened vessel walls, high arterial tension, and hypertrophy of the left ventricle. The optic changes can often be differentiated by an expert, but even the elect have been deceived at times. The character of the headache may be of value; as a rule it is not so severe in Bright's disease as in brain tumor, and often is not so sharply localized. Still, there are cases of Bright's disease with localized headache, and even with localized tenderness on percussion. The age of the patient is important, as cirrhosis of the kidney is relatively infrequent in the young. The point to be remembered, as Bramwell justly remarks, is never to make a diagnosis of brain tumor until Bright's disease has been excluded. As we have pointed out before in these columns, and the fact can not be too often stated, the successful diagnostician is not he who generalizes from the salient points in a case, but he who studies every detail and reaches a conclusion only after a careful and exhaustive study of all the attainable facts. There are many more mistakes due to carelessness than there are due to ignorance.

MEDICAL TEMPTATIONS.

The mails regularly bring to physicians an unusual number of opportunities to make "good money" without any effort. Thousands of dollars are thus spent for printing and postage. Does it pay? If not, why does the deluge keep on coming? It is to be feared that among ill-educated and unsuccessful physicians there are always some who grasp at every such chance. The form of these appeals to cupidity or to discouragement frequently runs: "We desire to secure a representative physician in your locality who will become associated with us as a specialist for the treatment," etc. "The special advantages of this treatment can be secured for his private practice by one physician in your locality." Through "an advantageous business arrangement," other physicians are permitted to furnish patients. Eminent men, some with the degree of D.D., furnish a very large proportion of the usual "testimonials." Of course the business is conducted on "thoroughly ethical lines," and "the management is on a strictly business basis." "Special medicines" of unknown composition are to be administered by the favored medical victim of this form of nostrum swindle. Nearly always it is an incorporated company that handles these affairs nowadays. The impersonality of the corporation is so convenient. As the education of physicians improves and as organization brings us into closer touch one with another, there will be less and less chance for success in appeal to medical men to throw away their scruples and for mere money to engage in projects of questionable morality. In the meantime it is not a bad idea to keep reminding ourselves of the various seductive forms in which these unprofessional temptations appear.

Medical News

CALIFORNIA.

New Hospital.—The permit for the erection of the first building of the Samuel Merritt Hospital, Oakland, has been issued, and work on the building, which is to cost $50,000 will soon begin.

Compilation of Health Laws.—The State Board of Health has issued a 28-page pamphlet which contains a compilation of all the health laws of the state, including the laws governing the registration of vital statistics.

Banquet Hirschberg.—The San Francisco Society of Surgeons of the Eye, Ear, Nose and Throat tendered a banquet July 17 to Dr. Hirschberg of Berlin, and to Dr. A. E. Bulson, Jr., Fort Wayne, Ind., secretary of the Section on Ophthalmology.

Personal.—Dr. Curtis C. Falk, Eureka, has been appointed a member of the medical board of the naval militia of California.——Dr. H. Gordon Bayless, Los Angeles, sailed for Europe July 8.——Dr. Fred C. Gerlach has been elected president and Dr. Henry J. B. Wright, secretary and health officer for the San Jose Board of Health.——Dr. W. Harriman Jones, Long Beach, has been elected instructor in gynecology in the Los Angeles College of Physicians and Surgeons.

CONNECTICUT.

Jacobi Addresses Yale Graduates.—The annual address in medicine at Yale University commencement, June 26, was delivered by Dr. A. Jacobi, New York City, whose subject was "The Era of Therapy."

State Board Changes Location.—The office of the State Board of Health has been changed from New Haven to Hartford. At a meeting July 7 Prof. William H. Brewer, New Haven, was re-elected president.

For Tuberculosis Ward.—More than $4,000 has been subscribed for the tuberculosis ward of the Hartford Hospital. The annual expense of maintenance of the ward is $15,000, of which the state provides one-half.

Personal.—On July 1 Dr. Wyeth E. Ray was appointed associate medical director of the Travelers' Insurance Company, Hartford. On July 8 he was also commissioned assistant surgeon, with rank of ensign in the Naval Battalion, N. G., Conn.

Gift to Hospital.—Litchfield County Hospital, Winsted, has received a donation of $25,000, to remain as a permanent fund, one-half of the income of which is to be paid to the donor during his life and the balance devoted to the needs of the hospital.

GEORGIA.

Herb Doctor Fined.—Theo. Pollard, a "herb doctor" of Columbus, was fined $5 or 25 days on the chaingang, for vagrancy, June 9.

New City Hospitals.—The new Brunswick City Hospital was opened to receive patients July 1.——The Americus City Hospital opened for the accommodation of patients May 15.

Colored Professions Organize.—The Georgia Colored Medical Association, whose membership includes pharmacists and dentists, organized at Savannah, July 12. The following officers were elected: President, Dr. Eustace E. Green, Macon; vice-president, Dr. George N. Stoney, Augusta; treasurer, Dr. William F. Penn, Atlanta; secretary, Dr. Palmer Floyd, Savannah, and assistant secretary, Dr. J. A. Moore, Macon.

Personal.—Dr. Lewis M. Gaines, Atlanta, has been made professor of anatomy and physiology in the Medical Department of Wake Forest (N. C.) University.——Dr. and Mrs. W. A. Monnish, Atlanta, have sailed for Europe.——Dr. Obadiah C. Gibson and Miss Gibson, Macon, have started on a trip through the west and Mexico.——Dr. John W. Caldwell has been elected physician for the first district of Augusta.——Drs. Emil Van Goidtsnoven and Arnold H. Lindorme have been sworn in as assistant city physicians of Atlanta.——Dr. Maury M. Stapler, Macon, has sailed for Europe.

ILLINOIS.

Gravely Ill.—Dr. Lewis D. Dunn, one of the oldest and most respected practitioners of Moline, is critically ill.

Fined for Illegal Practice.—John Peattie, Peoria, was fined $100 and costs, July 3, for practicing medicine without a license.——Dr. Davis, Hamilton, was recently fined $50 for practicing medicine in Missouri without a state license.

Hospitals' Funds Grow.—The building fund for the Deaconess Hospital, Peoria, now amounts to more than $11,100.——The recent bazaar held at Aurora for the benefit of the City Hospital netted more than $8,300 in cash for the institution.

Personal.—Dr. Wesselius Davis, Wapella, who was shot in May by Truman Mason, is convalescent, and will soon resume practice.——Dr. Robert C. Bourland, Rockford, has been appointed assistant surgeon, Illinois National Guard, and assigned to the Third Infantry.——Hon. O. J. Bailey, Peoria, has been re-elected president of the Cottage Hospital Association.

Chicago.

Presentation to Dr. Reynolds.—Employes of the Department of Health presented to Dr. Arthur R. Reynolds, retiring commissioner of health, a gold watch, suitably inscribed.

Less Smallpox.—During last week six unvaccinated children were removed to the isolation hospital. No death occurred during the week and 47 patients still remain in the hospital.

The Week's Deaths.—The total number of deaths for last week was 518, equivalent to an annual mortality of 13.57 per 1,000. Acute intestinal diseases caused 112 deaths; consumption, 65; heart diseases, 48; violence, 41; nephritis, 31 and pneumonia, 25.

Health Conditions Again Normal.—There were 105 fewer deaths reported during the week ended July 29, than during the previous week and the annual rate of 13.57 per 1,000 is 17.3 per cent. less for the week and 15.5 per cent. less than the average July ratio of the previous twelve years. This average was 16.06 per 1,000, the highest having been 26.94 in 1893 and the lowest 14.34 in 1900. The rate for the twenty-nine elapsed days is only 13.16 and the month promises the lowest July rate on record.

MARYLAND.

Faculty Meets at Deer Park.—It has been decided to hold the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland at Deer Park, September 21 and 22.

Dying, Forgives Debtors.—Dr. Michael K. Warner, who died in Baltimore July 22, destroyed all his account books before his death, saying that he did not wish anyone to be pressed for debt by his administrators. He had no doubt those would pay who were able to do so and they knew what they owed.

Woman's College Troubles.—A bill asking for the appointment of a receiver for the Woman's Medical College has been filed by Drs. John G. Jay, Joseph T. Smith, Pearce Kintzing and Eugene F. Cordell, former members of the trustees and faculty of the college, and at present creditors of it. These physicians hold notes of the college which the present trustees are said to have refused to recognize or to pay.

Abortionists Sentenced.—Dr. Stephen Crowe and William Ward, alias Dr. Edward Jackson, convicted last month of committing manslaughter by criminal operation, were sentenced on June 30, in the criminal court, to the penitentiary. The former to ten years and the latter to four years.——A woman has also been sentenced to three years in the penitentiary for performing a criminal operation.

MISSOURI.

St. Louis.

New City Hospital.—The mayor, health commissioner and building commissioner visited and inspected the new buildings July 25. It was announced that the patients would be transferred about August 1.

New Frisco Hospital.—Ground was broken last week for the new Frisco System Hospital. It is on Laclede Avenue, near 49th Street. It is expected to cost $175,000. The chief surgeon of the System, Dr. George W. Cale, will take up his quarters at this hospital on its completion, although the old hospital located at Springfield, Mo., will still be used.

New Smallpox Hospital Demanded.—The North St. Louis Medical Society recently discussed the subject of the need for better quarters for patients in quarantine, and a special committee appointed by the chairman presented the following resolutions:

No effective, general vaccination law exists, and a considerable part of the public seem to be ignorant of the great prophylactic value of vaccination.

Most people, as is well known, dread the idea of being sent to quarantine over rough country roads, in an ordinary ambulance, in zero weather, to an ancient hospital, concerning which all sorts of stories are afloat, and with whose occupants the relatives can communicate by telephone very indirectly at best. These people, therefore, in every way contrive to conceal their cases from the health authorities, they and their relatives spreading the disease and remaining a fruitful source of infection.

The method of disposing of the corpses of smallpox patients is antiquated and unsatisfactory.

The resolutions follow:

That we urge the proper authorities to take the necessary steps to have a new hospital (thoroughly modern and up to date in its equipment), erected on a suitable spot within the city limits, or, if insisted on, at the present quarantine station.

That, in this hospital, wards and private rooms be provided, and those able and willing to do so, be requested to pay for the services; but no tipping of attendants should be permitted.

Well-heated electric car ambulances should be used to convey the patients to the hospital, closed covered stretchers being used to carry the patient on from his residence to the ambulance.

The hospital should be provided with telephones for the convenience of the patient's relatives.

The bodies of patients dying at the hospital should be turned over to the relatives of the dead for burial, after being thoroughly embalmed and disinfected, and placed in a metal, hermetically-sealed casket.

An effort should be made to secure for the entire country a suitable uniform vaccination law.

Health Commissioner in the Courts.—Last week the deposed health commissioner, Dr. John H. Simon, through his attorneys, applied for a writ of certiorari in the Circuit Court. Judge Kinsey issued a temporary restraining order, ousting the temporary health commissioner and re-instating Dr. Simon. Thereupon, the city council appeared in court and asked that the judge amend his order, allowing the temporary appointee to remain in office until the case be fully heard in the circuit court in October. The court took the case under advisement; in the meantime, by agreement among the interested parties, the temporary appointee was allowed to administer the affairs of the department until the court sees fit to stand by or amend his order. The upheaval in the health department has attracted universal attention to the fact that politics is playing too great a rôle in the management of the department. The peculiar nature of the municipal ordinances under which the department operates leaves the destiny of the public health department absolutely in the hands of the politicians. This state of affairs has occasioned a movement to be set on foot by the local physicians to change the old laws and enact new provisions by which the department will be in the hands of a non-partisan board elected by the people, like the school board. In the fall, the medical societies will take up the matter and endeavor to bring order out of chaos.

NEW JERSEY.

Personal.—Dr. Edward Guion of Atlantic City has been elected Health Officer of that city.——Dr. M. L. Somers has been elected Secretary of the Atlantic City Board of Health, vice Dr. Edward Quinn, resigned.——Dr. C. E. Shaffray, house physician at the Alexain Brothers Hospital, Elizabeth, has resigned and will practice in Logansport, Ind.

Club Holds Annual Meeting.—At the annual dinner of the Physicians' and Surgeons' Club of Jersey City, the retiring president, Dr. Henry H. Brinkernoff, was presented with a silver loving cup by members of the club. The following officers were elected: President, Dr. Christopher D. Hill; vice-president, Dr. Henry J. Bogardus and secretary-treasurer, Dr. N. Frederick Feury.

An Argument for Reciprocity.—The State Board of Medical Examiners of New Jersey at its annual meeting passed the following resolution:

WHEREAS, The educational and examining standards for the medical license of New Jersey are at least equal in all respects to those of New York and in some respects higher; and

WHEREAS, The degree of unreasonableness in the matter of interstate indorsement on the part of New York can not be further ignored; therefore, be it

Resolved, That on and after October 16, the date of the next regular meeting of this board, the indorsement of medical licenses by New York will be suspended until further notice.

Special Cars for Consumptives.—The Board of Health of Jersey City objects to consumptive patients from Manhattan using the ferries and waiting rooms while en route to the sanitarium at Otisville. A resolution has been adopted ordering that all such cases shall be received in Jersey City only from such means of transportation as has been set apart for this special purpose, and that the patients shall not be allowed to use the public passageways and waiting rooms, and that special cars must be provided. All cars or trains used for this purpose must be thoroughly fumigated, and disinfected, under the direction and supervision of the Board of Health.

NEW YORK.

Addition to Ossining Hospital.—This institution is to be provided with a new building as a memorial to the late Mrs. Frederick Potter. The building will cost $60,000.

Certified Students.—Before a student can enter Albany Medical College he is required, under the new rules, to present a certificate of good moral character signed by two physicians of good standing in the state in which the matriculant resides.

Examiners Appointed.—The State Board of Regents has made the following appointments to the State Board of Medical Examiners: Drs. George R. Fowler, Brooklyn and A. Walter Suiter, Herkimer, representing the Medical Society of the state of New York.

League Meeting.—The Physicians' League of Buffalo held its annual meeting Wednesday, June 30. Officers were elected as follows: President, Dr. Jane W. Carroll; vice-president, Dr. Jeanette M. P. Himmelsbach, and secretary and treasurer, Dr. Katherine S. Munhall.

Stony Wold Sanitarium Needs Funds.—This institution has at present 85 patients suffering from tuberculosis. There are many more applications for admittance than can be accommodated and in spite of the numerous entertainments recently given a plea for more money is sent out and another entertainment will be given August 9.

New Instructors at Albany.—The following instructors have been added to the faculty of Albany Medical College: Drs. Edwin F. Sibley, surgical pathology; Dr. Silas L. Filkins, anatomy and prosector; Dr. La Salle Archambault, neurology; Dr. Leon K. Baldauf, and George E. Bailby, histology, and Drs. Charles H. Gerhard and Harold E. Robertson, bacteriology and pathology.

Personal.—Dr. and Mrs. Harry E. Battin, Corning, sailed for Europe July 18.——Dr. Mary O'Malley, Binghamton, has been appointed on the resident staff of the Government Hospital for the Insane, Washington, D. C.——Dr. Walter A. Scott, Niagara Falls, has qualified as coroner of Niagara County. ——Dr. Harlan A. Harris, Syracuse, has been appointed assistant surgeon in the Mexican Central Railway Hospital at Agnascalientes, Mexico.——Dr. William C. Krauss, Buffalo, has been appointed one of the managers of the Buffalo State Hospital.

Medical Library Association Formed.—The Medical Library Association of Jamestown was organized July 25, with 20 charter members who elected the following officers: President, Dr. Era M. Scofield; vice-president, Dr. Jane L. Greeley; secretary, Dr. John W. Nelson, and treasurer, Dr. John H. Wiggins. Any physician who is a graduate of a regularly incorporated medical college is eligible to membership. The admission fee has been placed at $10, which also pays the dues for the first year. The dues thereafter will be five dollars a year, the money to be devoted solely to the purchase of books, cases, etc.

New York City.

Seaside Hospital Opened.—St. John's Guild has opened its Seaside Hospital at New Dorp, L. I., where sick children in need of hospital care will be received during the summer.

Personal.—Dr. and Mrs. William K. Draper sailed on the *Grosser Kurfeurst* July 24.——Dr. H. T. Johnson sailed on the *Carpathia* July 24.——Dr. John Vanderpoel sailed on the *Campania* July 29.

Hospitals Inspected.—Mayor McClellan, accompanied by the Health Commissioner, Dr. Darlington, has made an inspection of Bellevue Hospital, the Willard Park Hospital and the Board of Health Building.

Offered Post With Peary.—Dr. Irving D. Williams, who was Peary's first choice as surgeon of the Arctic ship *Roosevelt*, was obliged to decline the position on account of the ill health and age of his father.

For Mount Vernon Hospital.—An auxiliary organization for this institution has raised sufficient money by entertainments to furnish a room in this institution, purchase a portable house for contagious diseases, equip a drug room and provide several other necessities.

Hospital Motor Day.—It has been proposed by a motorist that, after the fashion of Hospital Sunday, one day during the summer be devoted by motorists to taking out in their motor cars children and patients of hospitals who are unable to walk, and that the day be known "Hospital Motor Day."

Accidents.—Dr. Lucy C. Jones fell from a window of her house July 7, fracturing her skull and both arms and dislocating her hip. Notwithstanding the gravity of her injuries she is making good progress toward recovery.——Dr. T. Harris Cherry, ambulance surgeon at the Hudson Street Hospital, was seriously injured in a collision between the ambulance and a street car July 4.

Contagious Diseases.—There were reported to the Sanitary Bureau for the week ending July 22, 365 cases of tuberculosis, with 150 deaths; 347 cases of measles, with 14 deaths; 181 cases of diphtheria, with 26 deaths; 128 cases of typhoid fever, with 26 deaths; 62 cases of scarlet fever, with 3 deaths; 39 cases of cerebrospinal meningitis, with 20 deaths, and 43 cases of varicella.

City Will Get Its Sanitarium.—The Board of Health, undaunted by its failure to secure a site for the establishment of a sanitarium for the care of the city's tuberculosis patients, has been at work in the towns of Greenville and Mount Hope, Orange County and has secured permission to establish the sanitarium in this vicinity. Option has been secured on several thousand acres of land so that this sanitarium seems to be assured.

Typhoid Spreads.—About 30 cases of typhoid fever have occurred out in Bath Beach and Bay Ridge, sections of Brooklyn. The outbreak of this disease is attributed to the scarcity of water and lack of proper sewage. A new sewer system is now in process of construction. Dr. Billings of the Health Department is of the opinion that the milk is also a source of infection and he recently has had several dairies in the vicinity closed.

For City Filters.—Health Commissioner Darlington has sent a report to the Mayor urging the establishment of a filtration plant for purifying the water furnished to the city. He asserts that the impurities found are largely responsible for the large number of cases of typhoid fever and diarrhea on the weekly records of the department. He has prepared a statistical table showing that the death rate from these diseases has been decreased in cities which have filtration.

Modern Municipal Tenements.—The College Settlement, together with several other settlements, have joined with the Christian Workingmen's Institute in the endeavor to have a bill passed by the legislature authorizing the city to purchase sites of buildings which are a menace to public health and to erect model tenements in their places. It is urged that it would prove more satisfactory for the city to build these tenements, which would be a paying investment, and would in addition be better built.

Rigid Quarantine.—Dr. Alvah Doty, Health Officer of the Port, says he will take nothing for granted; and on the least suspicion passengers and crews will be detained. Merchant vessels will be inspected as rigidly as those carrying passengers, especially those bringing fruits. A number of passengers from vessels coming from the south having high temperatures have been detained in quarantine during the past week, though none have been suspected of having yellow fever.

Gifts to Coney Island Hospital.—The hospital for children suffering from bone tuberculosis at Sea Breeze has at present room for only 45 patients and there are more than 4,000 cases of bone tuberculosis in the tenement house district of New York. The trustees are trying to raise a fund which will enable them to erect a hospital to accommodate 400 patients. Jacob Riis has investigated the work and spoken so highly of it that one philanthropist has given $10,000, another $5,000 and another has pledged $1,500 annually for ten years toward the maintenance of the institution.

PENNSYLVANIA.

Opinion on Privilege to Practice.—Attorney General Carson has furnished the State Medical Society with the opinion that it is unlawful for a physician not a licentiate, to take charge of the practice of a legal practitioner during the latter's temporary absence.

Illegal Practitioner Prosecuted.—Through the Lancaster City and County Medical Society, A. B. Potts of Columbia, was prosecuted and held for trial in court on the charge of having violated the law of this state in not having a license or being registered.

Fire in Hospital.—A fire in the storeroom in the Presbyterian Hospital, Allegheny, July 5, caused considerable excitement, but very little damage, thanks to the presence of mind of Dr. W. C. Dice who prevented the spread of the flames by closing the door of the storeroom.

Gifts to Hospitals.—Alfred O. Deshong presented the Chester Hospital with a sanitary cottage for the use of patients suffering from contagious diseases. Mr. Deshong recently presented the Board of Managers with a cottage, but learning that another cottage was needed for female patients, he doubled his gift.——Mr. and Mrs. A. B. Farquhar have given $1,000 to the York Hospital to be applied to the remodeling of the Nurses Home.

Beef Trust Methods to be Investigated.—It is asserted that a thorough investigation of the methods of the beef trust in Pennsylvania will be instituted by Dr. B. H. Warren, State Dairy and Food Commissioner. The investigation is to be made with a view to determine the character of adulterants or preservatives used to preserve meat. It is asserted that the meat has been colored by washing with colored coal tar dyes.

dipped in formaldehyd solution, dusted with sulphites, and washed in boracic acid solution.

To Inspect River Water Supply.—The officials of the State Health Department and the Philadelphia Board of Health will make a thorough investigation of the sources of pollution of the Schuylkill River and other streams in the vicinity of the city. The investigation will begin at Reading, Pa., August 31, and all contributing streams from there to Philadelphia will be carefully examined, and all factories and industrial establishments along the Schuylkill will also be investigated to determine the disposal of their refuse. The inspection will be supervised by Dr. A. A. Cairns, chief medical inspector, and Dr. Seneca Egbert, who will examine the water near the city.

Personal.—Dr. Samuel G. Dixon, the new State Commissioner of Health, established his offices in the Capitol, Harrisburg, July 25.——Dr. John C. Watkins, Oil City, has been appointed lieutenant and assistant surgeon N. G. Pa., and assigned to the Sixteenth Infantry.——Dr. J. A. Kearney, Archbald, has sailed for Europe.——Drs. Charles P. Alderman and Oscar C. Fox have gone on duty as resident physicians at St. Joseph's Hospital, Reading.——Dr. John Repp, Greencastle, has been made Resident Physician at the Philadelphia General Hospital.——Dr. Fred C. Johnson, Bradford, has been appointed chief of the division of inspecting, quarantining and disinfecting.——Dr. Bert K. Vanattan, Franklin, has been made major and surgeon of the Second Brigade.

Philadelphia.

Illegal Practitioner Sentenced.—Philip H. Pierson, alias "Dr." White, pleaded guilty to performing an illegal operation on Elizabeth Johnson and sentenced to eighteen months in the county prison.

Dr. Hare's Narrow Escape.—Dr. Hobart Amory Hare narrowly escaped drowning in Delaware Bay July 22. He was on a yachting trip, and in a severe storm his yacht struck on the shoals and sank. The doctor was rescued by the crew of an accompanying yacht.

For Europe.—Dr. and Mrs. Arthur A. Bliss sailed July 25.——Dr. J. Norman Henry sailed July 26.——Dr. F. R. Packard sailed July 26.——Dr. Paul J. Sartain sailed July 22.——Dr. Ashley P. C. Ashhurst sailed July 1.——Dr. and Mrs. Arthur McGinnis sailed on the *Majestic* July 12.

Milk Crusade.—Owing to the excessive mortality among infants in this city during the recent weeks, 12 farmers who shipped milk to the city daily were arraigned on charges of adulterating milk. The medical inspectors have discovered that several dealers adulterate the milk by the addition of water. The farmers were arraigned at the instance of Food Commissioner Warren, and 5 were held in $500 bail for court.

Personal.—Benjamin Lee has been appointed assistant commissioner of health.——Dr. Ross D. Paterson has been appointed Assistant Physician to Philadelphia Hospital, vice Dr. Fred G. Johnson.——Dr. Charles K. Mills has been appointed consulting neurologist and Dr. Samuel McClary pathologist to the American Oncologic Hospital.——Dr. W. A. Van Voorhis, who had been arrested, charged with malpractice and committed to jail by the coroner, was admitted to bail in the sum of $2,500 by Judge Audenried, July 28.——Dr. Walter J. Cathrall was fined $10.00 and costs July 11 for assaulting a street car conductor.

War on Flies and Insects.—In order to protect the public health against the dissemination of disease, the health inspectors of the city have been directed to visit all milk houses, butcher shops, grocery and candy stores and instruct the owners to place a covering over meats, vegetables, candies, cakes and other edibles exposed for sale in order to protect them from flies and other insects. The following resolution was adopted at the meeting of the health board:

Resolved, That the chiefs of the divisions of nuisances, milk and meat and cattle inspectors are hereby instructed to visit all retail dealers exposing for sale in front of their properties meats, fish, vegetables, fruits, candies and cake, and to instruct the proprietors that a covering of some suitable material must be provided to protect the goods so exposed from flies and insects generally.

Health Report.—The deaths from all causes during the week aggregate 477, as compared with 608 during the previous week, and 434 for the corresponding week of last year. Last week 233 infants succumbed to intestinal diseases, but the deaths this week fell to 183. The principal causes of deaths were: typhoid fever, 19; whooping cough, 5; diphtheria, 4; tuberculosis, 42; cancer, 17; apoplexy, 17; tetanus, 1; heart disease, 40; acute respiratory diseases, 32; suicide, 5; enteritis (under 2 years), 95; enteritis (over 2 years), 7; Bright's disease, 31; inanition, 2; marasmus, 13; and accidents, 7. There were 123 cases of contagious diseases reported, with 25 deaths, as compared with 142 cases and 22 deaths for the preceding week.

WISCONSIN.

Sanitarium Incorporated.—Milwaukee Sanitarium for Tuberculosis has been incorporated without capital stock by Dr. Uranus O. B. Wingate and others.

Must Report Accidents.—Under the new law regarding the registration of vital statistics, physicians are obliged to report accidents, in addition to marriages and deaths. A compensation of twenty-five cents is provided for each registration.

Personal.—Dr. Gustavus I. Hogue, acting assistant surgeon, U. S. Army, has resigned and will practice in Milwaukee.——Dr. Wilbur T. Sarles, Sparta, has gone to Europe for the summer.——Dr. John M. Beffel, professor of pathology in the Wisconsin College of Physicians and Surgeons has resigned.——Dr. Edward Evans, La Crosse, has been re-appointed a member of the State Board of University Regents.——Dr. Frank C. Moulding, Watertown, surgeon of the Second Infantry W. N. G., has resigned.

GENERAL.

Yellow Fever in Panama.—No cases of yellow fever were reported from the city of Panama, during the first eleven days of July, according to *Public Health Reports*. In Colon, since July 2, five new cases have been reported with one death.

Personal.—Dr. Miroslav Urbanich, a medical inspector for the Netherlands, in Java, recently visited San Francisco. He states that the health record of Java is good, with the exception of that for the rainy season, which lasts for two months, and during which it is dangerous for a white man to be out of doors. There is no bubonic plague in the island, the most prevalent diseases being beriberi and malaria.

Quarantine Against Panama.—According to a report by Acting Assistant Surgeon Gruver, the Colombian ports have declared quarantine against Panama. Vessels from the Isthmus desiring to enter any Colombian port must first go to Guayaquil, Ecuador, for fumigation, and each vessel receive a certificate from the Colombian consul stationed there before pratique will be granted by the Colombian port authorities.

Robbery of Military Medical Stores.—It is reported from Manila that during the past few years probably not less than $100,000 worth of instruments and medical stores has been stolen from the medical supply depot. Two clerks were arrested charged with stealing supplies from the depot and selling them to the American drug store. It is also charged that the books were tampered with in order to conceal the thefts.

Health Report of the Philippines for April.—The report of the Board of Health for the Philippine Islands for April shows that in Manila there were 585 births during the month; of these 329 were male and 256 female. During April there were 530 deaths among the permanent residents of Manila and 48 among transients. Three deaths occurred in women of advanced age from senile debility. One woman was 105 years of age, another 115, and the third 125. There were three cases of smallpox with no deaths in April, 1905, against 18 cases with 7 deaths in April, 1904. Two cases of bubonic plague occurred during the month; both terminated fatally.

Leprosy and Smallpox on the Isthmus.—A case of leprosy is reported from Bocas del Toro. The smallpox patient is a laborer in the employ of the United Fruit Company. It has been impossible to trace the origin of the infection. The man was sent to the company's hospital and isolated. The leprosy patient is a Central American Spaniard who states that he has lived with a tribe of Indians at the headwaters of the Changuinola River for several years. The man was not aware of the nature of his disease and went to Bocas de Toro for treatment. The case is reported as isolated, but no definite conclusions have been reached regarding its ultimate disposition.

Leprosy in Cuba.—A case of leprosy was detected in an old resident of Matanzas. The patient is a man, aged 47, and it is stated in *Public Health Reports* that the disease first appeared when he was 9 years old and while he was visiting a maternal aunt who was affected with it. As both his parents were healthy this seems to show that leprosy is acquired by contagion, and that in this case it is not congenital. The patient has both the tubercular and the anesthetic forms of the disease, the tubercular on the face and the anesthetic on the hands. There is contraction of the fingers and several of the phalanges have been lost. The patient has been sent to the San Lazaro Hospital in Habana, for proper segregation and care.

THE YELLOW FEVER SITUATION.

RAPID SPREAD—RIGID QUARANTINE—ACTION OF OTHER STATES—MISSISSIPPI INVADES LOUISIANA.

Louisiana.

New Orleans Isolated.—New Orleans is practically cut off from the outside world by the strict quarantine regulations adopted by neighboring municipalities and states. The local health board, headed by Dr. Quitman Kohnke, the health officer, and the State Board of Health, whose president, Dr. Edmond Souchon, is in active command, are working in close accord with the United States Public Health and Marine Hospital Service, in the effort to restrict the disease and to prevent the spread of the infection.

Statistics.—Up to the end of July 304 cases of yellow fever had been reported in New Orleans, from 46 foci of infection, with 62 deaths, a percentage of 20.4. On July 31, 21 cases were reported, with 5 new foci and five deaths, and on August 1, 42 cases were reported, with 4 new foci of infection and six deaths.——On August 2, 32 new cases were reported and 11 deaths.

Heat Complicates Conditions.—The situation in New Orleans has been complicated since July 30 by a torrid wave in which the temperature rose to 92.6°. As a result the new cases of fever doubled August 1. No abatement of the hot wave was in sight, and a heavier death-rate was expected.

Abolition of the Mosquito.—About 20,000 cisterns are being treated daily with oil and about 5,000 are being screened each day. It is reported that half a million dollars is available for the purpose of purging New Orleans from the mosquito-borne infection.

To Get Rid of Mosquitoes.—The mayor of New Orleans has issued a proclamation concurred in by the city health officer, the president of the State Board of Health, the surgeon of the United States Public Health and Marine Hospital Service and the advisory committee of the New Orleans Parish Medical Society, which gives the following instructions for stamping out the infection by getting rid of its cause, the "cistern mosquitoes:"

First—Keep empty all unused receptacles of water in every house, and allow no stagnant water on any premises.
Second—Screen all cisterns after placing a small quantity of insurance oil (a teacupful in each cistern) on the surface of the water.
Third—Place a small quantity of insurance oil in cesspools or privy vaults.
Fourth—Sleep under mosquito nets.
Fifth—Wherever practicable, screen doors and windows with wire screens of close mesh.

Outside Parishes.—Plaquemines parish, just above the city, on the west bank of the river, reported officially on August 1, six cases of yellow fever; Terrebonne parish, one case, and Jefferson parish two cases. Officials from the State Board of Health and the U. S. P. H. and M. H. S. service have been sent to these parishes to take charge of the situation. The patients will be screened and isolated, and a war against mosquitoes will be inaugurated. All of these patients are Italians or Austrians who have been directly in connection with the Italian quarters of New Orleans where the infection was undoubtedly received.

Shreveport.—A case of yellow fever is reported in the detention camp at Shreveport.

Modification of Quarantine Regulations.—President Souchon of the State Board of Health issued a proclamation August 1 on behalf of the board and of parish and municipal health officers, announcing that he had accepted, and recommended the acceptance by subordinate officers of the Marine Hospital Service, of health certificates for through passengers from northern points transferring in screened coaches at New Orleans. He declares that passengers from New Orleans, after a detention of five days in Marine Hospital Service camps who are given certificates, should be admitted without detention into the parishes and towns of the state.

Embargo on Freight.—The president of the State Board of Health deprecates the quarantine against shipments of merchandise from New Orleans and recommends that no such restrictions be imposed in as much as all freight cars from New Orleans are fumigated by the officials of the U. S. P. H. and M. H. Service before leaving the city.

To Control Spread of Fever.—Dr. Quitman Kohnke, health officer of New Orleans, has issued the following circular:

Office of the Board of Health of the City of New Orleans.
The spread of yellow fever is easily controlled by the application of very simple rules.
Whether or not New Orleans will be rid of yellow fever at an early date depends in a very large measure on the degree of assistance each householder is willing to contribute to the work of eradication.
Yellow fever is transmitted from person to person by the bite of a stegomyia mosquito—the kind whose breeding places are cisterns, water barrels and similar collections of water. The stegomyia mosquito bites in the day time usually, seldom at night.
It is important to know the conditions under which these mosquitoes transmit the disease so that the measures of prevention may be intelligently operated. Mosquitoes, in order to become infectious, must bite a patient during the first three days of the fever, and then ten days must elapse before it is capable of transmitting the disease.
Mosquitoes are, therefore, not dangerous before the tenth day after biting the sick, and the patient is not dangerous after the third day of fever.
Protect from mosquitoes, day and night, all cases of fever for three days, and then destroy before the tenth day, after the beginning of the illness, the mosquitoes that are in the room.
Whenever yellow fever spreads from person to person, it is because these preventive measures have not been carried out.
QUITMAN KOHNKE, Health Officer.

Other States.

Alabama.—The State Quarantine Board at a special meeting August 1, adopted the following new quarantine regulations:

All vessels from Colon, either direct or via any other port, shall be disinfected at the station of this board and held five full days thereafter at the station. All vessels from Bocas del Toro, Republic of Panama; Puerto Cortez, Honduras; Livingston, Guatemala, and Belize, British Honduras, shall be full five days out from point of departure before leaving the quarantine station of this board.

The rigid quarantine which has been enforced since July 29 against Louisiana by the State Board of Health has been legalized by a proclamation issued by Governor Jelks. This proclamation, like the recommendations of the state board, extends the area under quarantine so as to include the entire state of Louisiana.—State Health Officer, Dr. William H. Sanders, Montgomery, announces that he believes the quarantine steps taken in the case of yellow fever, reported August 1 in Montgomery are fully adequate, and that no occasion exists for the declaration of a quarantine against Montgomery.

Arkansas.—Governor Davis, on August 1, directed the commander of the state guard to detail as many men as might be necessary to act as guards on all trains entering the state, and at all points where boats run, in order to establish a strict state quarantine against all points where yellow fever is found to exist.——A case is reported at Texarkana.

Georgia.—Health Officer Dr. William F. Brunner, Savannah, has gone to Louisiana to investigate the conditions there and to determine whether or not Savannah shall quarantine against New Orleans and adjacent points.

Illinois.—Dr. James A. Egan, secretary of the State Board of Health, announced on August 2 that the portion of Illinois lying south of the Baltimore and Ohio Southwestern Railroad was declared to be quarantined against all fever-infected points. All trains will be inspected at East Cairo and at Thebes.

Mississippi.—Port Gibson has appointed a vigilance committee to guard against the entry of strangers. Pass Christian has been closed against all travel from New Orleans. Utica has declined to receive mail that has not been fumigated.

Mississippi Invades Louisiana.—It is reported that Mississippi has five armed boats patrolling the coast to prevent fishermen from breaking through the quarantine lines, and furthermore that armed guards along the lines of the Louisiana and Nashville Railroad have extended their patrols three miles inside the limits of Louisiana. In consequence of this action, Governor Blanchard of Louisiana has telegraphed Governor Vardaman of Mississippi informing him that Mississippi armed quarantine guards have crossed into Louisiana territory at Pearl river, and asking Governor Vardaman to give orders that his guards remain on their own side of the state line. This telegram was supplemented by a second in which Governor Blanchard stated that he had information that Mississippi patrols had forbidden fishermen to fish in Lake Borgne and were now guarding the exit of the Lake Borgne canal, preventing boats from going out; asking whether this was done by the order of the governor of Mississippi, and stating that this state of affairs could not be tolerated.

Missouri.—The president of the State Board of Health called a meeting for August 3 in St. Louis, to discuss the question of a quarantine against infected points in the South.

New York.—One passenger and five of the crew of the Mallory line steamer San Jacinto, from Galveston and Key West, which arrived August 1, were removed from the steamer at quarantine and transferred to Hoffman Island for observation.

Pennsylvania.—Every possible precaution is being taken by the state quarantine officers to prevent the introduction of yellow fever from New Orleans into Philadelphia. Orders for a

rigid inspection of all vessels from southern ports, and especially from the gulf ports, have been issued by the quarantine officials at Marcus Hook. A complete physical examination will be given each passenger on such boats arriving at quarantine, and all vessels will be fumigated.

Texas.—Dr. George R. Tabor, Austin, state health officer of Texas, announced August 1 that passengers from eastern and northern points having to pass through New Orleans could not continue their journey through Texas without remaining in a detention camp for at least six days.

Marshall, just across the Louisiana state line, is said to have instituted a shotgun quarantine against all persons or traffic from fever-infected districts, and to have stopped all train service.

A case of yellow fever has been reported in Morgan City, 80 miles west of New Orleans.

Virginia.—The health commissioners of Norfolk, Portsmouth, Berkeley and Norfolk counties have ordered quarantine against New Orleans.

General.

Federal Government May be Involved.—It is reported that the schooner *Grace* of Gulfport, Miss., and another vessel have been lying five miles inside of the Louisiana line for the past week, and at times even entering the outlet from Lake Pontchartrain into Lake Borgne, and during that time have taken 18 Louisiana boats and turned them over to the United States revenue cutter *Winona* and towed them to Ship Island, where the crews were interned.

Detention Camps.—One of the greatest problems is the necessity for greater facilities at the detention camps, where patients are held for five or six days for quarantine, as many of the towns refuse to allow camps to be established within their limits and as the camps already established are overcrowded. The inmates of the camps are uncertain whether they will be allowed to reach their destination after the stated period of detention has expired.

Ask United States to Intervene.—A petition is being circulated in Louisiana asking the United States Government to take charge of the yellow fever situation and handle it as it did in Havana, Santiago and other places.

Court of Appeals Moved.—On account of quarantine restrictions, the United States Court of Appeals has been removed from New Orleans to Atlanta.

FOREIGN.

Dengue in Australia.—Queensland has had an epidemic of dengue. Thirty-nine deaths in Brisbane were directly due to this disease.

Yellow Fever in Mexico.—Six cases of yellow fever are reported from Vera Cruz. The infection was probably imported from Tierra Blanca, where cases of yellow fever had been present for several weeks previously.

Excessive Summer Heat in India.—During June the heat in some parts of India was excessive. In the region of the Ganges the temperature frequently ranged from 100 to 114 F. A temperature of 106 F. was registered in Calcutta, where many deaths were directly due to the great heat.

Excessive Heat in Italy.—It is reported that the localities which suffered most from the recent hot wave are Romagna, Tuscany, Lombardy, and Venezia. The largest number of sufferers were laborers in the fields. A number of cases of sunstroke have been reported from Florence, Aseoli, Lodi and Verona, some of them being fatal.

Sanitary Service in the Roman Campagna.—On June 1, the Red Cross began the sanitary service in the Roman Campagna for the sick poor, establishing, as in the past year, an ambulance system in the localities most infected with malaria. The personnel has already been appointed, and the necessary material has been obtained.

A Pasteur Institute in the Straits Settlements.—The *British Medical Journal* states that owing to the occurrence of several cases of hydrophobia in Penang, some of which have terminated fatally, Leong Fee, the Chinese consul, has made an offer to the government to build and to equip a Pasteur institute for the Straits Settlements and neighboring regions.

British Royal Infirmary.—The carnival which was held recently at the Zoological Gardens, Clifton, with the object of raising $75,000 to wipe off the existing debt on the British Royal Infirmary, has been most successful, according to the *Lancet*. It yielded a profit of $37,000, and Sir George White has given a similar sum, so that the infirmary is now free from debt.

International Congress on Infant Feeding.—The first session of this congress is to be held at Paris, October 20, 21. The object of the association is to diminish the mortality among non-breast-fed children by supplying good and pure milk and by instructing ignorant mothers. Anyone wishing to take part in the congress should send his name, together with 20 francs ($3.80), to Dr. Roger, 39 Rue de Berry, Paris, before October 15.

Vaccination in South Africa.—In Natal the local legislature, by a vote of 18 to 16, has decided to strike out the appropriation for vaccination. The prime minister is reported to have protested against such false economy, saying that it would probably result in an epidemic of smallpox. The Natal legislature does not seem to have been moved by antivaccination principles, but by a desire to save present outlay no matter at what future expense.

Kala-Azar in Assam.—In a report recently published concerning the work of the dispensaries in Assam, says the *Lancet*, it is stated that the number of cases of kala-azar fell from 2,534 in 1902 to 257 in 1904, but it is admitted that the diagnosis of the hospital assistants cannot be depended on. Concerning this disease statistics are almost valueless, although it is probable that the mortality has not been so great in recent years as formerly.

Tuberculosis Hospital in Rome.—The new hospital, Humbert I, built at Rome for indigent tuberculous patients has begun operations. Without the intention of establishing a true sanatorium, the institution being designed as a refuge for patients suffering from chest troubles of every degree, the commission has been able to solve the problem of hospital care for the tuberculous poor of Rome. The institution consists of 5 pavilions, of galleries for open-air treatment, of cottages, and of special booths, all fitted out according to the modern system of hospital hygiene.

Yellow Fever in Honduras.—Acting Assistant Surgeon Carter of the Public Health and Marine Hospital Service has been ill with yellow fever at Puerto Cortez, but has recovered sufficiently to be on duty. In Puerto Cortez, since July 1, there have been reported 15 cases of yellow fever, with 3 deaths. The situation at San Pedro, as reported by the consular agent, is very bad, 400 cases being reported, with a total of 52 deaths. The greatest mortality is among the native population, the mortality among the foreigners being very small. Yellow fever has also been reported from Coloma, a small town near San Pedro.

Cremation for the Parsee Dead.—The Indian correspondent of the *Lancet* states that there seems to be a move among a certain section of the Parsee community in Bombay to adopt the western method of cremation of the dead in place of the loathsome practice of exposing the dead to be devoured by vultures. The Hindu method of cremation by open wood fires is not supported. It is proposed to establish a Bombay cremation society on the lines of the Cremation Society of Bengal which was established in Calcutta in 1902. It is earnestly to be wished, he states, that the innovation may be taken up by the Parsee community, which, while so enlightened and farseeing in some respects, is backward and exclusive in others.

International Congress on Assistance for the Insane.—This congress will be held at Milan, in September, 1906. Among the matters to be dealt with are the construction and organization of asylums, the no restraint system, solitary confinement, work and agricultural colonies, special arrangements for the weak-minded and epileptic, alcoholics, criminal lunatics, etc., boarding out the family colonies, psychiatric and neuropathologic dispensaries; the treatment of incipient insanity; legislation; the powers and duties of the state; private initiative. The president of the organizing committee is Professor Tamburini, who was recently chosen to succeed the late Professor Ezio Sciamanna in the chair of clinical psychiatry in the University of Rome; the general secretary is Professor Ferrari, Bertalia, Bologna, Italy.

LONDON LETTER.

The Imperial Cancer Research Fund.

At the annual meeting, held under the presidency of the Prince of Wales, Dr. Bashford, general superintendent, reported that during the year the investigations had passed out of the provisional stage and had acquired definite characters. The first series of reports was received from India and included 146 cases in natives subsisting on a vegetable diet, 137 in others whose food was mainly flesh and 222 in natives liv-

ing on a mixed diet. Evidence had been obtained that the occurrence of sarcoma increased as life advanced in a manner analogous to that long known to be characteristic of carcinoma. Sir William Church, chairman of the executive committee, in moving the adoption of the report, said that the investigations carried out during the year might be described as falling under three main heads—statistical, histologic and experimental. Additional evidence had been accumulated showing that cancer could not be associated with any peculiarities of diet. The continued tabulation of the cases of malignant growths in the metropolitan hospitals, in which the diagnosis had been proved microscopically, confirmed the opinion that in internal growths the errors of diagnosis even of the most accomplished and experienced observers are much greater than would be expected. The results of inoculation in mice, he stated, point out the necessity of yet more closely studying the processes of cell multiplication. Tumors occurring sporadically in mice can be transplanted to other mice; thus it has been found possible to perpetuate a malignant growth through successive generations. Every transplantation did not succeed and the cause which determined success or failure can not be stated. Slight racial differences in the mice seemed to be important. Careful examination of transplanted tumors had shown that a continuous power of growth is manifested by the transplanted cells and that the new growth originates from them and not from the cells of the host irritated or stimulated by the transplanted material. In mice, as in men, spontaneous malignant growths occur in the aged rather than in the young, but transplanted growths flourished as well or better in young and vigorous mice. As to the question of contagion, large numbers of healthy mice were kept for long periods in the same cages with mice suffering from both sporadic and inoculated tumors, and yet in no instance was the disease transmitted.

Proposed Charter for the British Medical Association.

The "representatives" at the Oxford meeting of the British Medical Association instructed the council to obtain alterations in the memorandum of association so as to give the association power to expend money for the defense and promotion or maintenance of the honor or interests of the profession, particularly taking or defending legal proceedings. The council referred the question to a committee which held numerous sittings and took legal opinions. As a result, the chairman of the council, Mr. Andrew Clark, was asked to ascertain what prospect there would be of the privy council advising the crown to grant a charter to the association. He has reported that there is a good prospect of obtaining one.

Vital Statistics of Jews.

A paper entitled "A Contribution to the Study of the Vital and Other Statistics of the Jews in the United Kingdom," has been read before the Royal Statistical Society by Mr. S. Rosenbaum, and is of considerable interest. It shows that the birth rate and a low death rate among the Jews is to produce English and that the infant mortality is considerably lower. In the three quinquennial periods ending respectively in 1890, 1895, and 1900, the metropolitan rate of infant mortality (deaths under one year to 1,000 births), increased from 153 to 156 and 161. At the same time, the rates in the borough of Stepney declined from 170 to 168 and 165. In this borough, an enormous increase of the Jewish population has taken place in recent years and has been concurrent with a decline of infant mortality while that of the metropolis generally increases. The Jewish birth rate in East London appears to be considerably higher than the non-Jewish. In 1903 it was 45 per 1,000. This high rate is due not only to the large proportion of Jewish women who are married, but also to their great fertility. The combined result of an abnormally high birth rate and a low death rate among the Jews is to produce a much greater rate of natural increase than that of the English population.

The Quartercentenary of the College of Surgeons of Edinburgh.

Elaborate preparations have been made to celebrate the four hundredth anniversary of the incorporation of the College of Surgeons of Edinburgh. The honorary fellowship will be conferred on a number of eminent surgeons, British and foreign, including the following Americans: Drs. Halsted, Keen, Warren, McBurney and W. J. Mayo. The actual anniversary falls on July 1, when the "Seal of Cause" was granted in 1505 by the town council to the Barber Surgeons of the City and Liberties of Edinburgh, which formed them into a trades guild with the monopoly of the barbers' and surgeons' craft, and with the privilege of obtaining the body of "ane condamnit man after he be died" to make anatomy of and the sole right of making and sellling *aqua vitæ* within the burgh.

Correspondence

The Country Surgeon.

MILLERSBURG, OHIO, July 28, 1905.

To the Editor:—The president of the Baltimore & Ohio Surgeon's Association in his annual address at the Pittsburg meeting, made a statement which rural surgeons can scarcely permit to go unchallenged. He took occasion to deplore the gross incompetency of the country railroad surgeons, and suggested that they take post-graduate courses in surgery. He even intimated that the railroad company might be induced to defray the expenses of such a course of instruction. He said that the rural surgeon was necessarily inferior to his city brother, because he did not have the advantages to keep up with the progress of the science that the latter possesses, etc.

Now I suppose the doctor doubtless has reasons for entertaining a low estimate of our qualifications, especially since he has the courage to express his convictions in a public address. It seems to me, however, that if he were familiar with the work done and the results obtained by some of the country surgeons, he would have qualified his statements, recognizing the fact that there are exceptions to the rule he arbitrarily asserted. In the first place railroad companies, in appointing the surgeons in large towns and cities, have a considerable contingency to select from. They select men of recognized surgical ability and as a rule of considerable experience. Men of this class are by no means numerous, even in large cities. For instance, take a city which has within its precincts one hundred active practitioners of medicine. How many competent surgeons would be found among them? I venture to say that one could count them on the fingers of one hand. Granting this to be true, we can easily imagine that railroad companies may have some difficulty in finding a man who is a tolerably fair surgeon even in good sized towns along their line. We find men everywhere who are able practitioners of internal medicine, but have no aptitude or skill whatever in the line of surgery.

It is true that such men ought not to accept appointments as surgeons, but in the struggle and competition for notoriety they seek the appointments, and by their blunders often bring the entire craft into disrepute. All the post-graduate courses existing would not convert such men into surgeons.

Now, in casting reflections on the rural surgeons as a class, the doctor should have been more explicit. He should have stated in definite terms in what respect we are lacking. If he has reference to operative skill and dexterity of course he would not expect a surgeon who has only a few capital operations in a year to be compared with one who operates almost daily. Although I beg leave to say in this connection that I know a country surgeon who has recently made his ninetieth amputation and who in skill and scientific technic stands second to but very few city surgeons whom I have seen operate; and when it comes to results he can excel some of them.

Possibly the doctor regards us as deficient in aseptic technic. I see no reason why we should be open to criticism in that respect. In our latest works on surgery we find hundreds of pages devoted to operative technic, general as well as special. Every step is described, from the preparation of the patient to the minutest details in the operative procedure. It would seem that a short period of careful study should make one master of the subject without taking a post-graduate course. It is self-evident without entering into detail, that we country surgeons are often placed under circumstances, and confronted with conditions, that render strict asepsis almost impossible. The city surgeon stands back, scrubbing his hands and looking wise, while the internes and nurses prepare the patient. Instruments and dressing material are placed before him in the best of order and in a perfect aseptic condition. When he operates he is surrounded by competent assistants who stand ready to take the blame should there be anything wrong in the technic. How different is the lot of the country surgeon. For instance, I would like to have seen one of the city surgeons in my place when called to see a man whose leg was crushed and who was lying on the floor of a box car; I was obliged to amputate by the light of lanterns and without any medical assistance.

S. P. WISE.

Marriages

B. BARRET GRIFFITH, M.D., Springfield, Ill., to Miss Sarah Adelia Giddings of Colorado Springs, Colo., June 28.

DUNCAN FRAZIER STEWART, M.D., Neponset, Ill., to Miss Adelaide Victoria McIntire, at Chicago, July 6.

JOSEPH JOHN CODY, M.D., to Miss Mary Genevieve McCabe, both of Charlestown, Boston, Mass., June 24.

JOSEPH COURTNEY RALSTON, M.D., Galveston, Texas, to Miss Marie Martin Smith of Painesville, Ohio, June 29.

WILLIAM P. BURKE, M.D., Highland, Cal., to Miss Kate Parmlee of Cedar Falls, Iowa, at Highland.

WILLIAM S. SHIPP, M.D., Battle Creek, Mich., to Miss Florence Temple of Tecumseh, Mich., June 28.

EUGENE C. TAYLOR, M.D., Millersburg, Ind., to Miss Hazel Bella Deniston of Indianapolis, June 29.

J. A. MARONDA, M.D., Emerson, Neb., to Miss Emma Palmer of Battle Creek, Neb., recently.

JAMES P. CONNELL, M.D., Fond du Lac, Wis., to Miss Eliza Twohig of Osceola, Wis., June 27.

WILLIAM GRANT NORMAN, M.D., to Miss Lida C. Sands, both of Dow City, Iowa, July 12.

GEORGE L. WENTZ, M.D., Drifton, Pa., to Mrs. Caroline Goddard of Worcester, Mass., July 11.

SAMUEL A. CRABTREE, M.D., to Miss Emma Alice Reynolds, both of Tolono, Ill., July 26.

ROBERT G. ALLEN, M.D., Washington, Ill., to Miss Anna Forward of Maryland, June 26.

ARTHUR MCGINNIS, M.D., to Miss Nellie B. Daugherty, both of Philadelphia, July 11.

THEOPHIL KLINGMANN, M.D., to Miss Nathalie Wahr, both of Ann Arbor, Mich., July 1.

DENTON W. RUDGERS, M.D., to Miss Maude Ohlman, both of Yankton, S. D., July 1.

LEWIS C. BEAN, M.D., to Miss Carrie Bell Walker, both of Gallipolis, Ohio, July 1.

E. R. TODD, M.D., Adams, Ore., to Miss Cora M. Moore of Salem, Ore., June 22.

JEROME J. STOUT, M.D., Dayton, Ohio, to Miss Caldwell, recently.

Deaths

Henry Hatch, M.D. Louisville Medical College, 1872, of Quincy, Ill., a member of the American Medical Association, Illinois State Medical Society, Adams County Medical Society, International Association of Railway Surgeons, Mississippi Valley Medical Association; fellow of the American Academy of Railway Surgeons, president Tri-State Medical Society in 1901, surgeon to the Burlington system; consulting surgeon to Blessing Hospital, Quincy; consulting physician to Woodland Home for Orphans and Friendless and Anna Brown Home for the Aged; from 1882 to 1887 professor of principles and practice of medicine in the medical department of Chaddock College, and president of the school board of Griggsville in 1875 and 1876, one of the most prominent practitioners of western Illinois, died at Blessing Hospital, Quincy, from pernicious anemia, July 24, after an illness of six months, aged 57.

Curtis Harvey Bill, M.D. New York City, 1859, of Bridgeport, Conn., a member of the American Medical Association; who won renown during the Civil War as surgeon to Gen. W. T. Sherman, after having been driven from Clarksville, Tenn., by a vigilance committee, on account of being a Union sympathizer; died in St. Luke's Hospital, New York City, July 24, six days after an abdominal section for malignant disease, aged 70.

William Shelton White, M.D., St. Louis Medical College, 1872, a member of the American Medical Association; from 1872 to 1892 chief of the microscopic department of the Bureau of Animal Industry, South Omaha; for two years assistant physician and for four years physician of Douglas County, died at his home in South Omaha, Neb., July 15, after a lingering illness, aged 61.

Wiley Rogers, M.D. Cincinnati College of Medicine and Surgery, 1865; a member of the Kentucky Board of Charity for twenty years, and of the State Board of Pharmacy for four terms; coroner and health officer of Spencer county and secretary of the Brashear Medical Society, died at his home in Taylorville, Ky., July 5, from uremia, after an illness of three months, aged 63.

Benjamin Edge, M.D. Bellevue Hospital Medical College, New York City, 1879, a member of the American Medical Association and of the medical Society of the State of New Jersey; in 1884 a member of the State Council of Charities and Corrections, and in 1901 a member of the State Reformatory Commission, died at his home in Jersey City, N. J., July 25, aged 54.

Charles S. Williams, M.D. (years of practice Indiana), 1897, for more than thirty years a practitioner of Columbia City, Ind.; for 22 years coroner of Whitley County and for several years secretary of the city board of health, died at his home in Columbia City, July 10, from carcinoma of the stomach after an illness of several months, aged 62.

David Wilkins, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1853, surgeon of the One Hundred and Thirtieth Illinois Volunteer Infantry, during the Civil War, for 51 years a resident of Greenville, Ill., died at his home in that city, from cerebral hemorrhage, July 23, after an illness of two months, aged 76.

Mahlon Felter, M.D. Albany (N. Y.) Medical College, 1859, one of the oldest petitioners of Troy, N. Y.; a member of the state and county medical societies and of the American Academy of Medicine; city physician of Troy in 1861 and 1862; died at his home in Troy, July 19, after an illness of six months, from heart disease, aged 74.

Edward W. Ridings, M.D. Vanderbilt University Medical Department, Nashville, 1888, a member of the American Medical Association and a prominent practitioner of Dickson County, Tenn., was shot and fatally wounded by J. E. Fowler, July 8, dying a few hours later, aged 35.

Robert M. Weir, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1866, said to have been the oldest practitioner of Bloomington, Ind.; for several years secretary of the local board of health, died at his home in Bloomington, July 6, from pulmonary tuberculosis, after a long illness, aged 64.

James L. Warden, M.D. University of Louisville, Medical Department, 1876, formerly assistant physician at State Hospital for the Insane, No. 3, Nevada, and later superintendent of State Hospital for the Insane, No. 1, Fulton, died at his home in Pleasant Hill, Mo., July 3, from septicemia, after a long illness.

David Beattie Smiley, M.D. College of Physicians and Surgeons in the City of New York, 1887; a member of the Medical Club of Middletown, and of the Medical Board of Thrall Hospital, died at his home in Middletown, N. Y., July 13, from spinal disease, aged 45.

Charles Rulon Pittinger, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1899, of Newark, N. J., died suddenly in a sanitarium in that city, July 6, eleven days after an operation for appendicitis, from cardiac embolism, aged 28.

Charles Darius Rogers, M.D. Albany (N. Y.) Medical College, 1888, some time government surgeon at Sitka, Alaska, and later clerk of the district court of Alaska, died at Denver, July 8, from the effects of an overdose of morphin taken for insomnia, aged 39.

E. C. Bainbridge, M.D. Jefferson Medical College, Philadelphia, 1848, of Harrisburg, Ky., some-time representative from Owen County in the legislature, died at the home of his daughter in Louisville, July 20, after a lingering illness, aged 76.

David Leslie Philip, M.D. McGill University Medical Department, Montreal, 1863, once president of the Brant County Medical Association, died at his home in Brantford, Ont., July 10, from cerebral hemorrhage, after an illness of four years, aged 66.

Michael Kimmel Warner, M.D. Washington University School of Medicine, Baltimore, 1876, for several years connected with the city health department, died at his home in Baltimore, July 22, after an illness of one year, aged 53.

George H. Wilson, M.D. Medical Department of Western Reserve University, Cleveland, 1893, of Cleveland, died at St. Alexis Hospital in that city, July 3, from nephritis, after an illness of two months, aged 35.

Alexander G. B. Parke, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1866, died at his home in Gap, Pa., July 1, from cerebral hemorrhage, after an illness of two days, aged 63.

D. C. Dunn, M.D. Louisville Medical College, 1872, a member of the local board of education, and justice of the peace, died suddenly at his home in O'Fallon, Ill., July 23, from cerebral hemorrhage, aged 61.

Clarke Robbins, M.D. (years of practice, Indiana, 1897), for 49 years a practitioner of Morgan County, Ind., died at his home in Mooresville, June 27, from paresis, after an illness of two years, aged 68.

James A. Armstrong, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1861, died at his home in Hellam, Pa., July 20, after an illness of nearly two years, aged 67.

Rupert W. Parker, M.D. University of Vermont Medical Department, Burlington, 1893, of Boston, died suddenly from heart disease at his summer home, Crow Point, near Hingham, Mass., July 10.

Lafayette Swoope, M.D. Medical College of Virginia, Richmond, 1857, died recently at the home of his nephew in Mississippi, and was buried at Swoope's Depot, Va., July 13, aged 73.

Hiram Murray Stokes, M.D. Pennsylvania, 1884, shot and killed himself at his home in Philadelphia, July 7, while temporarily insane from heat and an old injury to the head, aged 41.

Benjamin R. Ussery, M.D. Medical Department University of Tennessee, Nashville, 1897, died at his home near Shiloh, Tenn., July 10, from tuberculosis of bones, after a protracted illness.

David S. Hogan, M.D. John A. Creighton Medical College, Omaha, 1899, a member of the American Medical Association, died at his home in North Loup, Neb., July 4, aged 33.

George S. Tankersley, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1893, died at his home in La Pine, Ala., July 12, after an illness of one year.

Henry B. Allen, M.D. Jefferson Medical College, Philadelphia, 1883, for several years deputy revenue collector, died at his home in Cloquet, Minn., July 4, from tuberculosis.

Charles W. Robbins, M.D. Penn Medical University, Philadelphia, 1859, died at his home in Richmond, Philadelphia, July 4, from senile debility, aged 70.

George Mathews Telfair, M.D. Medical College of Ohio, Cincinnati, 1860, died at his home near Bloomington, Ohio, July 13, after a long illness, aged 65.

Philip J. Tresch, M.D. Fort Wayne (Ind.) College of Medicine, 1885, of Lafayette, Ind., was shot and killed in that city, by Alexander Kennedy, July 16.

Benjamin Franklin Gardner, M.D. Cincinnati, 1860, surgeon during the Civil War, died at his home in Atlanta, Ill., July 21, from senile debility, aged 87.

William T. White, M.D. Kansas City (Mo.) Medical College, 1895, died at his home in Kansas City, July 18, from an overdose of morphin, aged 35.

Daniel D. Bartholomew, M.D. Ohio, 1880, died at his home in Holly, Mich., July 22, after an illness of one day, from heart disease, aged 56.

Emanuel M. Scheurer, M.D. Pennsylvania, 1871, died at his home in Clearfield, Pa., July 10, from septicemia, after a long illness, aged 59.

James C. Bristow, M.D. University of Louisville Medical Department, 1872, died at his home in Wayne City, Ill., July 16, aged 81.

Mason M. Echols, M.D. Medical College of Alabama, Mobile, 1896, died at his home in Girard, Ala., July 15, aged 31.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SWAIM'S OINTMENT AND PANACEA.

MANCHESTER, N. H., July 17, 1905.

To the Editor:—Can you give me the formula or composition of Swaim's Ointment or the Panacea of Mr Swaim (as it is called sometimes) for the treatment of leg ulcer. JOHN S. MURRAY, M.D.

ANSWER.—Swaim's panacea is supposed to be a preparation similar in composition to the Compound Syrup of Sarsaparilla (U. S.) Swaim's Ointment is said to be composed of 25 per cent. precipitated sulphur, in equal parts of lard and suet.

FITTING GLASSES.

B. C. P. writes: "Wishing to take up the work of fitting glasses in my practice, I write you for information as regards a suitable text-book for a beginner in the work, one that will give necessary information, and as to what will be the necessary apparatus required."

ANSWER.—Most of the modern student's text-books on ophthalmology will furnish the required information. Those written by Jackson, de Schweinitz, Swanzy, etc., are plain, thorough and understandable. In addition, the principles and practice of retinoscopy should be mastered, and for this we know of no book superior to Thorington's. A retinoscopic mirror should be purchased and used in all cases, and no examination for refractive error is complete without a good ophthalmometer, which, although not always reliable, is still a most important aid in diagnosis. The ophthalmoscope is an instrument which should always be used, as it furnishes essential information, not only as regards the ocular media, but also data concerning the refractive condition of an eye. The surgeon should possess facilities for thoroughly darkening his consultation room, and should use for illumination either a good argand burner or a powerful incandescent light with a glazed shell (as sold by dealers in ophthalmologic instruments, etc.), or both. A Thorington asbestos chimney is a valuable aid in using retinoscopy. A good set of test lenses, etc., is, of course, indispensable, and some Snellen test types must, of course, be purchased. Reliable illumination of such test-types may be obtained by artificial illumination, properly shaded, placed either above or below the letters, as daylight is variable and unreliable. Instead of this arrangement an illuminated box, such as devised by Dr. Nelson Black of Milwaukee, may be purchased, and will be found to be reliable and most convenient. In addition to this some of Jaeger's test paragraphs for close reading will be necessary. All cases should also be carefully tested for their muscular balance by the Maddox rod, or some instrument, such as a Steven's phorometer, supplemented by a small dot of light at the other end of the room, which may be obtained by a minute gas jet, a candle flame, or an incandescent light contained in a small black box, with a round hole in its side, placed underneath the Snellen's test-types. Thus equipped the earnest physician may by much study, patience and practice, become, in time, capable of doing good refraction work.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 29, 1905:

Egan, Peter R., surgeon, assigned to duty at Fort Hamilton, N. Y.

Nelson, Kent, asst.-surgeon, assigned to duty at Fort McHenry, Md.

Crabtree, Geo. H., asst.-surgeon, in addition to his other duties, will take charge of, and perform until further orders, those of attending surgeon, New York City, N. Y.

Torney, Geo. H., deputy surgeon general, Brechemin, Louis, deputy surgeon general, Stephenson, Wm., surgeon, appointed members of a board of officers to meet at the Army General Hospital, Presidio, San Francisco, for the examination of such officers of the medical department as may be ordered before it for promotion.

Kennedy, Jas. M., asst.-surgeon, ordered to report in person to Lieut.-Col. Geo. H. Torney, deputy surgeon general, president examining board, Army General Hospital, Presidio, San Francisco, for examination for promotion.

Godfrey, G. C. M., asst.-surgeon, ordered to report in person to Major Wm. H. Arthur, surgeon, president, examining board, Washington, D. C., for examination for promotion.

Quinton, Wm. W., asst.-surgeon, assigned to temporary duty at Army General Hospital, Presidio, San Francisco, until arrival of 17th Infantry at that post, then to accompany the regiment to Fort McPherson, Ga., where he will take station.

Woodall, Wm. P., asst.-surgeon, assigned to duty at the Army General Hospital, Presidio, San Francisco.

Quinton, Wm. W., asst.-surgeon, granted leave of absence to include the date of arrival of the 17th Infantry in San Francisco.

Ragan, Chas. A., asst.-surgeon, assigned to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Richard, Charles, surgeon, reported for duty at Fort Jay, N. Y.

La Garde, Louis A., surgeon, having reported to the military secretary of the army, in compliance with orders from the governor of Canal Zone, will proceed to Manila, P. I., for duty. Also granted leave of absence for one month, with permission to apply for an extension of one month.

Whinnery, Jean C., dental surgeon, left Fort Egbert, Alaska, for Fort Gibbon, Alaska, for duty.

Warwick, Clarence A., contract surgeon, arrived at San Francisco, for four months' leave of absence from the Philippines Division.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 29, 1905:

High, W. E. G., asst.-surgeon, detached from the Naval Training Station, San Francisco, and ordered home to wait orders.

Smith, C. G., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from April 12, 1904.

Shipp, E. M., surgeon, orders of June 21 modified; ordered to the New York Hospital.

Backus, J. W., asst.surgeon, detached from the *Southery* and ordered to the *Hancock*.

Dabney V., acting asst.-surgeon, detached from the *Calgoa* and ordered to the *Southery*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending July 26, 1905:

Sawtelle, H. W., surgeon, granted leave of absence for one month from date of arrival in Washington, D. C.

Wasdin, Eugene, surgeon, to proceed to Mobile, Ala., for special temporary duty in Mobile and vicinity.

White, J. H., surgeon, to proceed to New Orleans for special temporary duty.

Guiteras, G. N., surgeon, to proceed to New Orleans and report to Surgeon J. H. White for special temporary duty.

Young, G. B., P. A. surgeon, to proceed to Jackson, Miss., for special temporary duty.

Corput, G. M., P. A. surgeon, to report to Surgeon J. H. White for special temporary duty.

Goldberger, Jos., P. A. surgeon, to report at Bureau, Washington, D. C.

Richardson, T. F., P. A. surgeon, orders to proceed to Brunswick quarantine station revoked, and directed to proceed to New Orleans and report to Surgeon J. H. White for special temporary duty.

Francis, Edward, P. A. surgeon, to proceed to Mobile, Ala., and report to medical officer in command for temporary duty.

Gustetter, A. L., acting assistant surgeon, granted leave of absence for ten days, from July 25, 1905.

Safford, M. V., acting assistant surgeon, granted leave of absence for three days, from July 22, 1905, under paragraph 210 of the regulations.

Savage, W. L., acting assist.-surgeon, department letter granting leave of absence for thirty days from Aug. 7, 1905, amended to read thirty days from August 15.

Goodman, F. S., pharmacist, to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Watters, K. H., pharmacist, granted leave of absence for fifteen days from August 7.

VanNess, G. I., Jr., pharmacist, granted leave of absence for thirty days from August 1.

Bierman, C. H., pharmacist, granted leave of absence for fifteen days from July 24.

BOARD CONVENED.

Board to meet at San Francisco, July 27, 1905, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon G. M. Magruder, chairman; P. A. Surgeon J. M. Holt, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the period from July 15 to 22, 1905;

SMALLPOX—UNITED STATES.

California: Los Angeles, July 1-8, 1 case.
District of Columbia: Washington, July 8-15, 6 cases.
Illinois: Chicago, July 8-15, 6 cases.
Indiana: South Bend, July 8-15, 1 case, 1 death.
Louisiana: New Orleans, July 8-15, 4 cases (2 imported).
Massachusetts: Lowell, July 1-8, 1 case.
Michigan: Grand Rapids, July 8-15, 6 cases.
Nebraska: Omaha, July 8-15, 1 case; South Omaha, July 1-8, 1 case.
New Jersey: Jersey City, July 8-16, 1 death.
Ohio: Toledo, July 8-15, 2 cases.
Oregon: Portland, June 1-30, 6 cases.
Pennsylvania: Altoona, July 8-15, 1 case; York, 1 death.
Tennessee: Memphis, July 8-15, 2 cases.
Washington: Seattle, July 1-8, 1 case.
Wisconsin: La Crosse, July 8-15, 1 case; Milwaukee, 15 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, May 27-June 3, 2 cases.
China: Hongkong, May 6-13, 1 case.
Colombia: Cartagena, June 17-24, 1 case, 1 death.
Ecuador: Guayaquil, June 13-20, 1 death.
France: Paris, June 24-July 1, 7 cases.
Great Britain: Birmingham, June 24-July 1, 8 cases; Bristol, 2 cases; Cardiff, 4 cases; London, 1 case.
India: Bombay, June 6-13, 4 cases; Calcutta, June 3-10, 5 cases; Karachi, June 4-11, 8 cases, 2 deaths; Madras, June 3-9, 5 cases.
Italy: Catania, June 22-28, 1 case, one death.
Russia: Moscow, June 10-17, 7 cases, 3 deaths; St. Petersburg, June 22-29, 9 cases.

YELLOW FEVER—FOREIGN

Africa: Goree-Dakar, Maay 31, 1 death.
Ecuador: Guayaquil, June 13-20, 3 deaths.
Guatemala: Livingston, June 21-July 6, 8 cases, 2 deaths.
Honduras: Puerto Cortez, June 8-July 7, 12 deaths.
Panama: Colon, July 2, 1 case.
Venezuela: Maracaibo, June 22, present.

CHOLERA—FOREIGN.

India: Bombay, June 6-13, 1 death; Calcutta, June 3-10, 5 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, July 17, 1 death.
Philippines: Cebu, May 27-June 3, 2 cases, 2 deaths; Manila, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: New South Wales: New Castle, May 13-27, 2 cases; Sydney, 3 cases, 1 death; Northern Rivers District, May 6-13, 2 cases, 1 death. Queensland, Brisbane, May 27-June 3, 1 case, 1 death. Ipswich, May 31, 1 death.
China: Hongkong, May 6-13, 17 cases, 12 deaths.
Egypt: General, June 3-10, 3 cases, 2 deaths.
India: Bombay, June 6-13, 188 deaths; Calcutta, June 3-10, 52 deaths; Karachi, June 4-11, 67 cases, 63 deaths.
Japan, Kagama Ken, May 30-June 16, 34 cases; Tokyo, April 18-June 10, 11 cases, 6 deaths.

Society Proceedings

AMERICAN ASSOCIATION OF LIFE INSURANCE EXAMINING SURGEONS.

Sixth Annual Meeting, held in the Imperial Hotel, Portland, Ore., July 10, 1905.

Wish to be Independent of Local Agents—College Teaching Asked.

The following resolutions were passed by the Association:

WHEREAS, The local medical examiner is, under present arrangements, more at the mercy of the local agent than under the protection of the medical department of the company;

Resolved, That the appointment of local examiners should be independent of local agents and the number not added to to suit their desires; also,

Resolved, That the examiners' reports should always be sent direct to the home office by the local examiner and not through the agent; and, further, be it

Resolved, That in each city there should be one chief examiner and only such alternates as are reasonably required—one to one hundred thousand; all examinations to be made by the chief, if available, and when not the reason to be given and his indorsement obtained before policy be issued.

Be it resolved, That the American Association of Life Insurance Examining Surgeons, assembled in Portland, Ore., in regular annual session, July 10, 1905, urge that each medical college in this country provide for and give in their regular course of instruction a special course of instruction on life insurance examining, it being the desire of this association to advance the knowledge of this particular side of diagnostic work and to prepare the recent graduate for this responsibility.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. H. W. Dewey, Tacoma, Wash.; vice-presidents, Drs. A. S. McDaniel, San Antonio, Texas; M. A. Robison, Victor, Colo.; W. Moore, New York City, and W. T. Ames, Portland, Ore.; secretary-treasurer, Mr. J. G. Monihan, New York City. Next place of meeting, Boston.

Instruction of Students in Examination for Insurance.

DR. W. B. CLUNESS, San Francisco, discussed the fact that life insurance companies too often are the victims of errors due to ignorance on the part of recent graduates. Teachers should be impressed with the importance of instructing students in the methods of diagnosing disease in its incipiency. He attached much importance to tact and discernment, which sometimes count more than eminent ability. He would have students taught that life expectancy is the principal feature in life insurance problems, and that there is constantly going on an adverse selection against the company which it is the duty of the medical examiner to minimize to the extent of his ability; and that heredity and environment are the principal elements which determine the longevity of individuals. Students should be taught to give the company facts and not generalities. They should be urged to have the courage of their convictions and report their findings.

DISCUSSION.

DR. H. W. DEWEY agreed that instruction in college for this special work ought to be encouraged. Students should be aided to observe normal as well as pathologic conditions.

DR. H. G. BRAINARD, Los Angeles, defined the position of the applicant for insurance and of the patient in the office in their different aspects. The latter, he said, gave many points about himself; the former, knowing that any pathologic condition will cause a higher rate of insurance, tries to prevent such disclosure. This different plane of examination should be impressed on the medical student.

DR. D. W. SMOUSE, Des Moines, suggested the sending of a letter to the medical schools of this country to this end.

DR. W. T. AMOS, Portland, thought it possible that many applicants were approved by young physicians because of the persistence of the agent and because the young physician needed the money. The young men feel that they are getting no real support from the home office and consequently disregard the instructions of care in the matter of risks.

Collision or Collusion.

DR. W. T. AMOS, Portland, explained his reluctance in writing on a subject which seemingly criticises the insurance companies for which he examines, but in consideration of existing conditions he felt it was to the best interest of all concerned that the matter be brought up of the non-support by the medical directors of the local examiner which

resulted in collision between the agent and examiner with the working of injustice to the examiner, or a collusion between the agent and examiner with the working of hardship on the company. He analyzed the modus operandi by which this collusion grew, unconsciously to the examiner, between the agent and examiner. He hinted at the great desire of the insurance companies to get business, good business if possible, but business anyway. He intimated that the medical directors in their instruction to the local examiners cautioned them to be careful to a degree to which they did not expect the examiners to conform. He spoke highly of his opinion of the integrity of physicians as a class but could not see how they could be blamed for receding from the high standing supposed to be set by the medical directors when they see the easy examiners getting all the business.

We Can Do Better Work for Our Companies. Do They Want It?

DR. WILLIAM MOORE, New York, regarded the chief causes which prevent the companies obtaining the best services of the medical examiners, and the latter receiving their rewards to be: 1. The indifference of all the officials, except the medical director, to the examiners' welfare. 2. Poor pay and unnecessary multiplicity of examiners. He suggested the following remedies: 1. The medical report should call for no expression as to the insurability of the risk. 2. A confidential opinion, whenever the original report is to pass through the agent's hands, should be sent direct by the examiner to the medical director. 3. Examiners should be salaried, or a chief and alternate system be adopted with a penalty for its violation, to be paid by the agent, should he employ other than the chief, when available.

DISCUSSION.

DR. W. O. BRIDGES, Omaha, believed that until the medical director has absolute authority to make and to stand by an examination regardless of the business end, there would be difficulty. He regretted that there were few companies in this country who leave the principal part of the business in the hands of the medical director. The multiplicity of examiners is also responsible for much trouble. The only redress open to the medical examiners is to turn against those companies which will not protect them.

DR. E. S. CLARK, Sumas, Wash., thought there should be more safe risks and until examinations are conducted with this view the trouble will not be overcome.

DR. A. S. MCDANIEL, San Antonio, said that it has been his rule to make an honest report. While he has gained the confidence of his company, his income has decreased. He finds that other examiners have come in and for some reason they get the greater number of fees.

DR. M. A. ROBISON, Victor, Colo., asked whether an examiner was justified in reporting an absolutely poor risk to a company regarding an examination made by another examiner. The case in point was that of a man who had been recommended, but died within one week. Dr. Robison had been familiar with the condition before the insurance was issued and inquired whether he would have been justified in interfering with another's business.

DR. H. G. BRAINARD, Los Angeles, said that with most of the insurance companies the medical department was a kind of fifth wheel, which the company requires, but which is dominated by the business end of the concern. In his company the effort is made to have the examination papers sent direct from the examiner to the home office. He felt that the difficulty in question is one which can not be avoided until the examiner is made supreme in his own field. He called attention to the fact that insurance may be given to any man if a sufficient rate is charged; for instance, the man who dies next week may be insured if the rate is right. Because a man is not a first class risk, it does not follow that he should be debarred.

DR. H. W. DEWEY, Tacoma, remarked that theoretically the medical examiner is responsible to the medical department, but that practically he is much more responsible to the agent. He has in his office a scale and measuring rod which he has found keeps business away from him. Agents have told him that they do not want the exact height and weight of a man who is anywhere near the limit. Another cause of difficulty is the multiplicity of examiners; the agent picks out the most lenient. With reference to interfering in the matter of a poor risk, he thought it would be a clear case of "butting in."

DR. S. F. SANDERS, Holdredge, Neb., spoke in protection of the medical director, who is not entirely responsible for the appointment of the agent. He thought benefit would result to the insurance companies if attention were paid to the matter along the lines suggested in the papers.

DR. AMOS wanted it clearly understood that he was not under the second class of the heading of his paper. While he has been fairly successful, he has not made much money in the insurance business. He believes that an examiner should "butt into" the poor risks that have been accepted by other physicians.

(To be continued.)

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

Second Annual Meeting, held at Manila, March 1-4, 1905.

Under the Presidency of Dr. J. R. McDill.

The second annual meeting of the Philippine Islands Medical Association was convened in the library of the Bureau of Government Laboratories, Manila, P. I., March 1, 1905. The address of welcome was delivered by the Hon. D. C. Worcester, Secretary of the Interior. The address of the President, Dr. J. R. McDill, was on "The Status of Medical Affairs in the Philippine Islands," and will appear in full in THE JOURNAL. The meeting was an interesting and profitable one. Wednesday evening the past and present officers and guests of the association were guests at a banquet by the president, Dr. McDill. Friday evening another banquet was given by Dr. R. P. Strong. On Saturday evening the members of the association gave a banquet at the Army and Navy Club, where their guests of honor were the visiting physicians, the governor-general, and the members of the Philippine Commission.

Officers Elected.

The following officers were elected for the ensuing year: President, E. C. Carter; vice-presidents, V. G. Heiser and R. Cuervo; secretary-treasurer, R. E. L. Newberne; councilor, R. P. Strong; delegate to the American Medical Association, W. E. Musgrave.

Report of Secretary.

The secretary reviewed the history and work of the association, and gave the following information with reference to the profession in the islands: Total population, 7,635,426; total number of physicians, 360; practicantes, 131; midwives, 21; ratio of physicians to population, 1 to 21,209; number of physicians in Manila, 217; ratio to population, 1 to 1,013. Last year the death rate among physicians was greater than the supply. There is not a single modern available hospital nor a modern institution for medical teaching in the islands. The Manila Medical Society is the only subsidiary society.

Public Policy and Legislation.

This committee reported on the efforts made to secure a charter for the association, a law for the regulation of the opium traffic and to relieve, to some extent, the unsatisfactory conditions due to the scarcity of physicians in the islands, and at the same time to improve the present service. The committee also considered the establishment of a university of the Philippines to consist of an undergraduate school, a college of applied sciences, engineering, medicine, law, languages and philosophy, and recommended a plan of organization.

Papers Read.

The papers read and those accepted in the absence of the authors included the following:

"Beriberi," by Erwin Baelz; "Social Diseases," by Paul Clements; "Forensic Medicine," by E. F. Johnson; "A Search Into the Nitrite and Nitrate Content of Witte's Peptone, with Special Reference to Its Influence on the Demonstration of the Indol and Cholera Red Reactions," by William B. Wherry; "Glaucoma Among the Friars," by C. J. Miner; "Immigration," by V. G. Heiser; "The Episcopal Dispensary, and the Medical Care of the Indigent," by C. R. Johnson; "Control of Tuberculosis," by D. M. Appel; "Address on State Medicine," by E. C. Carter; "Measles in the Tropics," by Rudecindo Cuervo; "Results of Cold Irrigation as Compared with Warm Irrigations in the Treatment of Gonorrheal Urethritis and Endometritis," by E. C. Shattuck; "Symptoms, Diagnosis and Prognosis of Uncomplicated Intestinal Amebiasis (Amebic Dysentery) in the

Tropics," by W. E. Musgrave; "Medical Department of Bilibid Prison and some of the Diseases among the Prisoners," by W. R. Moulden; "San Juan de Dios Hospital," by R. E. L. Newberne; "Metropolitan Police Medical Service," by A. T. Short; "Dentition in Relation to the Excessive Infant Mortality in Manila," by Louis Ottofy; "Organization, Management and Medical History of the Civil Sanitarium at Baguio, Benguet," by J. B. Thomas; "Address on Climatology," by W. S. Washburn; "Care of the Aged and Infirm," by M. Gomez; "Evolution of the Medical Laboratory Work in the Philippine Islands and Opportunities now offered for Future Work," by R. P. Strong; "Chinese Medicine," by Tee Han Kee; "History of Plague in the Philippine Islands," M. Herzog; "Observations on Relapsing Fever," by Koch of Hongkong; "Military Medical Service in the Philippine Islands," by C. Richard; "Infant Mortality," by Louis de Castro; "Disinfection of Ships," by J. D. Long; "Some Unpublished Observations on Endemic Neuritis in the Philippine Islands," by J. M. Wheate; "Pseudo-diphtheria Bacilli," by E. H. Ruediger; "History of Medicine in the Philippine Islands," by A. Bautista; "Medical Laws, Customs and Practices in the Philippine Islands," by J. Maye; "Pathology of Intestinal Amebiasis," by P. G. Woolley and W. E. Musgrave; "Bronchopneumonia in Cattle, Its Relation to Infection and Bacillus Bovisepticus," by P. G. Woolley and W. Sorrel; "New Variety of Granuloma in Cattle Clinically Resembling Lumpy Jaw," by P. G. Woolley; "Sarcoma of the Ciliary Body," by P. G. Woolley.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Asthma.

Dr. G. Avellis, in an abstract in the *Jour. Am. Med. Sciences*, divides the antiasthmatics into four classes:

1. The preparations of stramonium and the nitrites.
2. The iodids.
3. The preparations of atropin.
4. Those substances which may be made up for inhalation.

When the attack of asthma is terminated by an abundant secretion of mucus the iodids are to be used.

When there is little secretion, even when there is cough, the iodids are useless and the preparations of belladonna should be used. The cases benefited by the iodids are more common than those in which belladonna preparations are of service. Fumigations are especially effective in children at the beginning of attacks early in the night. Their habitual use should not be encouraged.

The foregoing remedies are of value in asthma when the attacks are seldom and are separated by intervals of entire freedom from symptoms, but in that form of asthma in which the respiration is never free from râles, with more or less constant dyspnea, and no secretion of mucus, other therapeutic measures must also be employed.

In spasmodic asthma some authorities recommend a combination similar to the following:

℞.	Tinct. belladonnæ	℥i	4
	Spts. camphoræ	℥ii	8
	Kalii bromidi	℥iiss	10
	Elix. simplicis q. s. ad	℥iv	120

M. Sig.: One tablespoonful to be taken at the commencement of the paroxysm and the dose repeated in four hours, if necessary. Or:

℞.	Ext. grindelia rob. flu	℥i	4
	Tinct. belladonnæ	℥i	4
	Strontii bromidi	℥ii	8
	Elix. simplicis q. s. ad	℥iii	90

M. Sig.: One tablespoonful at a dose and repeated in four hours if required.

Lobelia is sometimes of service in conjunction with other antispasmodics as follows:

℞.	Tinct. lobeliæ		
	Tinct. belladonnæ, ãã	℥ii	8
	Elix. simplicis q. s. ad	℥ii	60

M. Sig.: One teaspoonful every four hours until relieved.

The iodids, if necessary, may be combined with other antispasmodics as follows:

℞.	Kalii iodidi	gr. lxxv	5
	Tinct. belladonnæ	℥iiss	10
	Syr. aurantii q. s. ad	℥ii	60

M. Sig.: One teaspoonful three or four times a day in water.

Treatment of Status Epilepticus.

The following are the most common causes of status epilepticus, according to K. Alt in *Med. News:* Constipation, with absorption of toxic products from the intestinal canal, alcohol, morphin, sexual excesses or nervous irritation, extreme heat from sun's rays, sudden withdrawal of the bromids. An exacerbation of the disease may also be noticed after an acute illness during which the patient is free from convulsions.

The first thing to be done in the way of treatment, according to this author, is to empty the bowels thoroughly by means of a high enema and calomel. This treatment alone will frequently cause the condition to subside by clearing the intestinal canal of all putrefactive material. The bromids are of but little value, as their action is too slow.

Chloral hydrate in thirty-grain doses (2.00), is an excellent medication when the pulse is strong. With cardiac weakness from ten to fifteen drops of the tincture of strophanthus should be added to the enema. In very severe cases the only means of controlling the convulsions is chloroform, which can be combined with oxygen. Should the temperature be high the patient may be placed in a cool bath, and in full-blooded individuals with acetonuria venesection followed by a saline infusion is indicated. Acetonuria, according to this author, is not uncommon in the epilepsy of general paresis, but is rare in genuine epilepsy.

Acne Vulgaris.

As to the causes of acne vulgaris, W. Kenneth Wills, in *Bristol Med.-Chir. Jour.*, regards dyspepsia and constipation as of the most importance, along with the lack of fresh air and exercise, and with an unsuitable dietary. Anything which causes the skin to flush has a harmful action on acne. Too hot drinks are the commonest offenders, while alcohol, mustard, pepper and spices, pork, pickles, and pastry should all be eliminated from the diet. Fats are not good, as they aid in the formation of sebaceous secretion and they should be cut to a minimum, particularly pork and bacon.

After the removal of the predisposing causes the local condition should receive attention, such as:

1. The removal of the fat from the skin.
2. The destruction of irritating micro-organisms growing in the fat.
3. The enucleation of comedones and pustules.
4. The maintenance of the best possible hygiene of the skin.

To remove the superfluity of grease from the skin hyperemia must also be reduced. For this purpose ichthyol, internally and externally, is recommended. Some alkaline medium applied externally with friction is of value, using an alkaline soap. After the friction with the alkaline soap some mild antiseptic should be used, at the same time preventing undue hyperemia. Sulphur and ichthyol are regarded as sufficient in inhibiting the growth of micro-organisms. When pustules are present an incision should be made to prevent pock marking.

The author recommends *x*-rays as an agent of value in stimulating the growth of normal cells and in promoting the absorption of granulomatous tissue. The good results from this treatment are not necessarily permanent, but having got rid of the trouble for a time, the skin may be kept freer in the future and can be kept clear from infection. Yeast sometimes acts well in these cases, presumably by rendering the soil unsuitable for the growth of the bacilli.

Whitfield, in the *Med. Practice*, edited by Bain, recommends the extrusion of the comedones by means of Unna's comedo extractor after thoroughly softening the face with soap and hot water. In very obstinate cases frequent scaling of the skin with strong resorcin pastes is recommended. The following ointments are recommended by him for local application:

℞.	Sulphuris precip.	℥ss	2
	Acidi salicylici	gr. x	65
	Parafinni mollis q. s. ad	℥i	30

M. Ft. unguentum. Sig.: Apply locally night and morning. Or:

℞.	Sulphuris precip.	℥ss	2
	Hydrarg. bisulph.	gr. xx	1 30
	Saponis mollis	℥ii	8
	Paraffini mollis q. s. ad	℥i	30

M. Ft. unguentum. Sig.: Apply locally to the face only for three successive nights in the week. Or:

℞. Resorcin 3ii 8
Zinci oxidi
Pulv. amyli, āā.....3i 4
Paraffini mollis 3iv 15

M. Ft. unguentum. Sig.: To be applied to the face for three successive nights in the week.

As lotions the following are recommended:

℞. Sulphuris precip. 3iss 6
Calaminæ prep. 3vi 24
Spts. vini rectif.....℥ii 60
Glycerini 3ii 8
Aq. calcis q. s. ad.....℥viii 240

M. Ft. lotio. Sig.: To be applied locally to the face. Or:

℞ Resorcini 3iss 6
Hydrarg. perchloridi.....gr. ii 12
Spts. odoratus .....℥ii 60
Glycerini 3ii 8
Aquæ dest. q. s. ad.....℥viii 240

M. Ft. lotio. Sig.: To be applied locally for acne involving the scalp.

The following local application containing ichthyol is recommended by some authorities:

℞. Ichthyol .....gtt. x 65
Sulphuris precip.....gr. xii 75
Zinci oxidi 3i 4
Lanolini q. s. ad.....℥ss 15

M. Ft. unguentum. Sig.: Apply locally.

Pruritus Ani.

L. H. Adler, in *Amer. Med.*, states that 95 per cent. of the cases of pruritus ani occurs in males. In nearly all the cases the patients are neurotic and of a decidedly bilious temperament. The treatment requires the removal of the cause, the regulation of the patient's habits of life and attention to local treatment. The latter consists in a daily injection into the rectum of the following:

℞. Ext. hamemelidis .....℥i 30
Ext. ergotæ flu.....3ii 8
Ext. hydrastis flu.....3ii 8
Tinct. benzoini co.....3ii 8

M. Sig.: One to two and a half drams to be injected into the rectum once daily.

If the perineal skin is dry and tough, the entire surface should be painted with a concentrated solution of silver nitrate (grains 96 to the ounce). This application may have to be repeated several times to restore the skin to normal. After this is accomplished the citrine ointment should be applied in full strength and renewed once daily for fourteen or fifteen days, and then from three times to twice a week. The treatment may have to extend over a period of several months.

Acute Cystitis.

The following is recommended in the treatment of acute cystitis accompanied by pain and hemorrhage:

℞. Morphinæ acetatis.....gr. iv 25
Tinct. veratri viridis.....3i 4
Tinct. hyoscyami 3ii 8
Syr. zingiberis .....℥i 30
Aquæ q. s. ad.....℥iii 90

M. Sig.: One teaspoonful in water every four hours.

As a suppository in such cases to be used instead of the foregoing the following is of service:

℞. Pulv. opii.....gr. x 65
Pulv. camphoræ 3ss 2
Ext. belladonnæ.....gr. iii 20
Olei. theobrom q. s.

M. Ft. suppos. No. vi. Sig.: One to be inserted at bedtime.

Medicolegal

Finding of Fatal Quantity of Arsenic Not Required.—The Supreme Court of Pennsylvania says, in the homicide case of Commonwealth vs. Danz, where the body was exhumed after an elapse of between eight and nine months and arsenic and antimony were found in various organs, that it is not incumbent on the commonwealth to prove that a quantity of poison sufficient to cause death was found in the body before a jury can be allowed to find that it was the cause of death, if the evidence sufficiently establishes the fact that the poison alleged to have caused death did kill the deceased. If the law were different, murderers by arsenic would often escape.

Friendly Examination Not a Consulting of Physician.—The United States Circuit Court of Appeals, Ninth Circuit, says, in Mutual Reserve Life Insurance Company of New York vs. Dobler, that an applicant for life insurance was asked when he had last consulted or been attended by a physician. His answer was: "Do not remember; years ago." The only evidence was that a physician who was his friend made, at intervals, physical examinations of him to ascertain the condition of his health, and that this was done, not at the instance of the insured, but on the physician's own initiative, without charge, and for the sole purpose of rendering a friendly service. The court holds that it would be a misuse of words as they are ordinarily understood, and especially as they were employed in the application for insurance, to say that, in so submitting himself to those examinations, the insured consulted a physician or was attended by him.

Compensation of Physicians as Expert Witnesses.—The Supreme Court of Nebraska holds, in the case of Main vs. Sherman County, that one testifying as an expert on a subject requiring special knowledge and skill, in the absence of a special contract, is entitled only to the statutory fee. This action was brought by a duly licensed physician who had been called by the prosecution and had testified as an expert witness in a prosecution for homicide in the district court of the defendant county, and had been paid the statutory witness fees. He claimed that he was entitled to additional compensation because his testimony was not that of an ordinary witness, but such as required special knowledge and skill. A demurrer filed to his petition was sustained. The Supreme Court Commissioners say that they are fully aware that the authorities are divided on this question, but think it hardly accurate to say that the authorities are nearly evenly balanced. On careful examination of the authorities it will be found that, after the elimination of the cases resting on peculiar constitutional or statutory provisions and on local customs, the decided weight of authority supports the conclusion reached in this case. The following are some of the cases sustaining this conclusion: Dixon vs. People, 168 Ill., 179; Flinn vs. Prairie County, 60 Ark., 204; Ex parte Dement, 53 Ala., 389; State vs. Teipner, 36 Minn., 535; Summers vs. State, 5 Tex. App., 365; Larimer County Comm. vs. Lee, 3 Colo. App., 177. It has been held that the state may require the services of its citizens without compensation. Bennet vs. Kroth, 37 Kan., 235; West vs. State, 1 Wis., 209; Ex parte Chamberlain, 4 Cow., 49. Nor do the commissioners think the rule embodied in that conclusion so oppressive as it might appear at first glance. They say that the benefits of civil government of necessity carry with them certain duties more or less onerous to the citizen. It not infrequently happens that the citizen is compelled to serve the state at a pecuniary loss. When an officer armed with a warrant commands the assistance of a citizen in making an arrest, the latter, however valuable his time, is not permitted to stand and bicker for fees; when called to serve as a juror, a citizen will not be heard to complain that the compensation fixed by law is inadequate. As to compensation in such matters, the scale is fixed without regard to calling or countenance, and the common laborer and the man of large affairs, rich and poor, learned and unlearned, are on equal footing. As was said in the Dement case, above cited: "The administration of justice being a source of mutual benefit to all the members of a community, each is under obligation to aid in furthering it as a matter of public duty, and every competent citizen may be summoned by due process of law to appear and render personal services in court without right on his part to a special compensation for so doing. His time is claimed by the public as a tax paid by him to that system of law which protects

his rights as well as those of others." For these reasons the Supreme Court affirms the judgment of the District Court in favor of the defendant county, holding as first above stated.

Liability of Town for Emergency Attendance on Pauper.—The Supreme Court of Minnesota holds, in the case of Robbins vs. Town of Homer, that, where the town supervisors are required to provide for the care and support of the poor therein, and have no regular physician to attend its paupers, and a pauper suffers from an accident which requires the immediate attention of a surgeon, who renders services to relieve the necessity, he may recover reasonable compensation from the town, although he had not been requested by the authorities to attend the patient. The court says that in Chapter 172 of the Laws of Minnesota of 1899 it is prescribed that county physicians shall be appointed by the county commissioners to attend on the poor when necessary; and it was therein specifically provided that, in case of emergency, where any poor person had become a county charge, and should be suddenly injured or afflicted, and so require immediate treatment before the arrival of the proper county physician, any reputable or duly licensed surgeon who should prescribe for or treat such injured or afflicted person might receive compensation from the board, with added provisions for notice by the emergency physician. Then follows a further proviso that this act shall not apply to counties caring for the poor by the township system. The view, however, is not to be tolerated, under well-settled constitutional limitations, that a class distinction in behalf of counties and to discriminate as to towns was created by this proviso. The most that can be said of this legislation relative to county physicians is that it is an indication of the policy of the state to provide for an apparent and reasonable requirement to protect the unfortunate poor where injury and sudden sickness may prevent the attendance of the regularly appointed physician whose duty is to look after the unfortunate charges of the state, and without any such statute the reason therefor is plain and apparent. The impulses of humanity, the dictates of natural justice, as well as the pecuniary interest of the municipal body on whom the duty is imposed, demand that, where the officials having charge of the poor are unable to act in a case of pressing urgency, the course indicated ought to be pursued, and should be justified, if it can be done on any reasonable legal grounds. The county or town must provide for the unfortunate pauper who has met with an accident requiring instant succor as soon as may be. To decline this mandate of humanity and duty wilfully by those on whom it is imposed would subject such officials to prosecution for misconduct in office. If the poor person in question in this instance had died, and the supervisors had been absent, the court has little doubt that a person providing for his burial would have a legal claim against the town; and, on the same reasons, why not a physician whose ministrations in a pressing emergency seek to avoid what may result in his death? The supervisors on whom the duty to secure the physician was imposed under legal as well as moral obligations had not provided for the same, and the court has no doubt that it should be held that the physician who immediately answered the call of emergency, perhaps to save life, or diminish the increase of expenditures against the public, would have a valid claim for compensation.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 22.

1 *Vicarious Action of the Bowels for the Kidneys in Tuberculosis. L. F. Flick and J. Walsh, Philadelphia.
2 *Bacterial Toxins and Immunity. V. C. Vaughan, Ann Arbor, Mich.
3 What Cases Are Suitable for Admission to a State Sanatorium for Tuberculosis, Especially in New England? H. C. Clapp, Boston.
4 Relapsing Fever: Its Occurrence in the Tropics and Its Relation to "Tick Fever" in Africa. F. C. Wellman, Angola, W. Africa.
5 *Syphilitic Spirochetes in Cerebrospinal Fluid. A. Gordon, Philadelphia.
6 Management of Epilepsy. T. P. Prout, New York.
7 *The Surgeon and the Pathologist. J. C. Warren, Boston, Mass.

1. **Vicarious Action of Bowels for Kidneys in Tuberculosis.**—It has long been recognized that in certain cases of tuberculosis there is a looseness of the bowels which is not due to ulceration. This looseness has been termed an irritative diarrhea and has been ascribed to errors in diet. When it has occurred in cases which have come to autopsy the bowels have been found free from ulceration and apparently in a healthy condition. A careful study of a number of cases which were under observation for a long time clinically and which came to autopsy led Flick and Walsh to believe that in these cases the looseness of the bowels is due to a vicarious action of the bowels for the kidneys and that nature is really trying to protect the system by this vicarious action. In all of the cases—11—there was severe diarrhea, usually over a protracted time. In all, the intestines were found normal and the kidneys were found to have undergone acute alterations. In three cases out of the eleven the autopsy showed the ileum slightly congested; in all the remaining cases the intestinal tract, with the exception of the appendix, was normal. Several forms of nephritis were found, toxic nephritis, parenchymatous nephritis, diffuse nephritis and interstitial nephritis. In seven cases out of the eleven there were scattered tubercles in the kidneys. The authors have found magnesium sulphate and nitroglycerin of greatest use in the treatment of this complication. When the bowels are very loose, .78 gm. (12 gr.) doses of magnesium sulphate every hour will lessen the number of stools. When the bowels are costive the magnesia will greatly improve the general condition. Sometimes patients begin to gain in weight under the use of magnesium sulphate who have done badly before. Opiates should never be used in these cases.

2. **Bacterial Toxins and Immunity.**—The theory on which Vaughan's work is based assumes that the bacterial cell is, in its essential part, a chemic compound made up of many groups. The endeavor in this work has been to split up the cell molecule of the colon bacillus into its constituent groups and to study the physiologic action of these groups. The result of the work has been to show: (a) That the colon bacillus even when grown on proteid-free mediums contains a highly poisonous group and that animals treated with repeated doses of this group have their resistance to living cultures of the colon bacillus multiplied from two to four times; (b) that a group similar to that mentioned can be obtained from egg albumin and pepton and that animals treated with this also show increased resistance to the living bacillus; (c) that animals treated with successive doses of that portion of the colon cell left after the removal of the poisonous group acquire a specific immunity to the colon bacillus; (d) that the blood serum of animals treated with either the poisonous group or the nonpoisonous group of the colon bacillus does not agglutinate the living colon bacillus; (e) that cultures of the colon bacillus contain a fatty acid which either as a free fatty acid or as a neutral soap dissolves red blood-corpuscles.

5. **Syphilitic Spirochetes in Cerebrospinal Fluid.**—The object of Gordon's investigation was to determine whether the newly discovered spirilla of Schaudinn and Hoffman are present in the fluid which is in immediate contact with the nervous tissue. If so, it would be directly indicated to inaugurate a treatment of those multiple nervous lesions caused by syphilis by introducing into the cerebrospinal fluid mercury and iodid. Gordon examined the cerebrospinal fluid in 8 cases of multiple lesions of brain and cord which developed many years after the initial chancre and 2 patients in the primary stage of syphilis. Although the results were negative, the researches are nevertheless important from the standpoint of the pathogenesis of parasyphilitic affections.

Medical Record, New York.

July 22.

8 *Influence which the Acquisition of Tropical Territory by the United States Has Had, and is Likely to Have, on American Medicine. G. Blumer, San Francisco.

9 *Sea-Air Treatment of Surgical Tuberculosis. C. Wallace, New York.
10 *Prevention and Management of Summer Diarrhea Among Tenement Children. C. G. Kerley, New York.
11 *Treatment of Acne. C. M. Williams, New York.
12 *Treatment of Pertussis in Relation to Etiologic Factors. J. B. Tyrrell, Waterville, Minn.
13 Mental Symptoms of Neurasthenia. E. L. Hunt, New York.

8.—See THE JOURNAL, July 15, 1905, p. 169.

9. **Sea Air Treatment of Surgical Tuberculosis.**—Wallace's report was prepared for the purpose of acquainting the profession with the progress of the work carried on at Sea Breeze, Coney Island, an experimental hospital for the sea-air treatment of surgical tuberculosis. Forty-three patients have been under treatment in the hospital, and in selecting them the management did not make it a rule to take only incipient cases in such desperate condition that their improvement alone could leave no doubt as to the efficacy of the treatment. There are four factors in the treatment, namely: (1) Sea all night and day. (2) Cheerful, normal surroundings. (3) Ample, nourishing food. (4) Orthopedic treatment.

The children get all the sea air possible; rain or shine they are out of doors the entire day except for two hours in a tent school on the beach, and at night they sleep in wards where all of the windows are open during even the coldest weather, 12° F. being not an uncommon temperature here in winter. They are amply protected against the cold by many blankets, and wear warm hoods and jackets over flannel night gowns, also mittens and woolen bed slippers. The same rule about open windows prevails in the dining hall. The patients in the non-ambulatory class spend their days in bed on the second floor veranda. Under all this radical treatment the children are happy and comfortable. After a few days of gradual acclimatization they become accustomed to the outdoor life and do not mind the cold. There has been only one slight case of bronchitis, and coughs and colds are unknown. The dietary is abundant and of the best. As to orthopedic treatment, the methods are the same as those in general use. The results obtained at the hospital have been very gratifying.

10. **Prevention and Management of Summer Diarrhea Among Tenement Children.**—Kerley says that the reduction of the large infant mortality during the summer is to be accomplished by the education of the mothers and by the possibility of their procuring a reasonable pure milk supply, the latter to be effected by the establishment of numerous milk depots throughout the tenement districts under the management of the health department. Kerley's standing order in every household of children is as follows: With the first appearance of intestinal derangement give two teaspoonfuls of castor oil, and stop milk. Give barley water or rice water until further advised by the physician. The further treatment is simple. The child should be kept as quiet as possible and in the coolest room in the house, and the quarters as spacious as are to be had. Boiled water is given as a drink, and frequent spongings during the very hot days are advised. The cereal water, plain or dextrinized, is to be continued until the acute symptoms have subsided in large measure, regardless of the age of the patient. Barley water or rice water is given in the strength of one-half ounce of the cereal to the pint of water. When milk is resumed it is given skimmed, in small quantities, in cereal water; never more than a half ounce in the feeding. Condensed milk given in amounts of from one-half to one dram in a feeding of cereal water is often well digested when fresh milk would not be. The author's experience is that just four drugs may be relied on in diarrhea, and these are calomel, castor oil, bismuth, and opium. Bismuth must be given in large doses to be of service, and opium must be used with care, is best given in the form of Dover's powder. The technic of and indications for irrigation of the colon are described, and it is stated that the measure should not be used indiscriminately. Kerley never washes out the colon oftener than once in twelve hours, and usually once in twenty-four hours suffices. In conclusion it is urged that the matter of prophylaxis be taken by the municipal government.

11. **Treatment of Acne.**—Williams urges both local and general treatment, and the necessity for thoroughness in the search for and correction of all possible predisposing causes, and for minute detail in all efforts at treatment, is particularly emphasized. Of the predisposing causes indigestion with constipation, diseases of the sexual organs, the scrofulous type, and anemia are mentioned as especially important and their treatment when complicated by acne is outlined. The local measures are, however, the most important, and the hygiene of the skin is described in detail. Of topical applications, after the irritated skin has been soothed by the use of bland lotions like milk of magnesia diluted, stronger preparations, of which the basis is usually sulphur and of which lotio alba is a useful example, are to be employed. The treatment also includes the expression of comedones, incision of indurated or sluggish nodules, etc., and the minutiæ of these various phases are fully described. The author urges the adoption of a single drug as a main reliance and study of its possibilities, rather than shifting from one thing to another in the hope of finding a panacea, which does not exist. As the morococcus, which is responsible apparently for most of the inflammation and suppuration in acne, is exceedingly common if not universal in dermatitis seborrhoica, treatment of the scalp should go hand in hand with the other measures.

12. **Treatment of Pertussis.**—Tyrrell believes that prophylaxis is the first essential and entails avoidance of contact with whooping-cough patients; schools and kindergartens being closed during severe epidemics. Disinfection of sputa and excreta is advisable, and good results in cutting short the disease have been reported by fumigation of the patient's room with sulphurous acid. Of the drugs to be used, quinin stands foremost and it may be given three times a day, as many decigrams as the child is years old, or as many centigrams as it is months old. Camphor is useful, but the coal-tar products are less favorable than quinin and are frequently dangerous. Careful dieting is necessary, and it is desirable to give small amounts of concentrated food at short intervals to avoid overflowing the stomach. For the paroxysms, belladonna and opium, and moral suasion are advocated. The author reports encouraging results attending the use of the elastic abdominal belts recommended by Kilmer for the purpose of controlling vomiting and reducing the number and violence of the paroxysms.

New York Medical Journal.

July 22.

14 Operative Surgery at the Mayo Clinic. R. Hill, St. Louis, Mo.
15 Value of the Recognition of Errors of Refraction in Functional Diseases of the Nervous System. E. D. Fisher, New York.
16 Fulminating Peritonitis Complicating Pregnancy; Due to Ruptured Pus Tube at Eight and One-half Months; Cesarean Operation; Death. P. B. Bland, Philadelphia.
17 *Private House Operations. Preparation and After-Treatment of the Patient; Preparation of the Rooms, etc. C. H. Richardson, Pittsfield, Mass.
18 *Rapid Healing in Septic Cases, Including the Use of Iodoform Wax in Bone Cases. A. T. Mann, Minneapolis.
19 Case of Lithemic Gangrene. A Contribution to Haig's Uric Acid Theory. N. Rosewater, Cleveland, Ohio.
20 Congenital Absence of the Kidney. L. W. Glazebrook, Washington, D. C.

17. **Private House Operations.**—Richardson does not discourage sending patients to a hospital for operation, but there are so many cases, particularly in women, in which circumstances render it next to impossible to be away from home for the required length of time, that they drag out a miserable existence which a relatively simple operation, almost devoid of danger, would rectify. In cases requiring a great deal of help during the operation, such as large fibroid tumors, or cases which may require prolonged after treatment in the line of dressings, etc., and in patients whose homes are uncleanly, a hospital is far and away the better place to have the operation performed, but the idea that an aseptic operation cannot be performed in an ordinary dwelling is certainly a great error.

18. **Healing in Septic Cases; Iodoform Wax in Bone Cases.**—Mann is convinced that in thorough removal of septic tissues, and in the use of strong carbolic acid followed by alcohol, we have powerful agents which allow us to prepare many septic conditions for rapid healing, and in subacute and chronic processes very often for healing by first intention. He also believes that in the iodoform wax we have an admirable sub-

stitute for iodoform packing, bone chips, and healing by blood clot, one which makes convalescence smoother and shorter, and which in some cases enables us to gain results which are impossible by the usual methods.

Medical News, New York.

July 22.

21 *Clinical Features of the Benign Stenosis of the Pylorus. H. L. Elsner, Syracuse, N. Y.
22 *Relations of Some of the Metabolic Diseases to Intestinal Disorders. T. B. Futcher, Baltimore, Md.
23 *Immediate Effect of Biliary Retention on the Secretory Function of the Stomach. J. Friedenwald, Baltimore, Md.
24 Sulphonated Guaiacol Compounds. H. C. Jackson and G. B. Wallace, New York.
25 Men We Lost. S. J. Meltzer, New York.
26 Future of the Laryngoscope and the Study of Laryngology. J. N. Mackenzie, Baltimore, Md.

21. **Benign Stenoses of Pylorus.**—Elsner discusses those abnormalities, benign in character, within or without the stomach, which block its outlet sufficiently to interfere in any degree with the emptying of that organ or otherwise disturb its functions.

22. **Relation of Metabolic Diseases to Intestinal Disorders.**—Futcher reviews some of the main facts concerning these diseases, particularly alkaptonuria, ochronosis, and cystinuria.

23. **Immediate Effect of Biliary Retention on Secretory Function of Stomach.**—An examination of 11 cases of which 8 were cases of catarrhal jaundice, one of hypertrophic cirrhosis of the liver and 2 of cholelithiasis, leads Friedenwald to conclude that in conditions of biliary retention there is a marked tendency to an increase in the secretion of the hydrochloric acid of the gastric secretion. The gastric contents were examined for the total acidity by titration with one-tenth normal sodium hydrate solution, using phenolphthalein as an indicator; the percentage of free hydrochloric acid was determined in some cases by means of Mintz's method, in others by Töpfer's method. The cases of catarrhal jaundice were mild forms, running their course in five or six weeks.

Boston Medical and Surgical Journal.

July 20.

27 Facts and Fancies About Mind and Body. C. A. Drew, Bridgewater, Mass.
28 *Actual Results of Cerebral Surgery at the Massachusetts General Hospital. E. A. Codman, Boston.
29 *Results of Brain and Cord Surgery at the Massachusetts General Hospital. J. J. Putnam, Boston.
30 *Results in Nontraumatic Surgery of the Brain at the Boston City Hospital. W. M. Bullard, Boston.
31 Three Cases of Intraspinal Tumor, Operated on by J. C. Warren. By W. B. Odiorne, Boston.
32 Operations for Cerebral Tumor at the Boston City Hospital. F. B. Lund, Boston.
33 Operability of Brain Tumors from the Point of View of Autopsied Cases. G. L. Walton, Boston.
34 Operation for Cerebral Abscess. F. L. Jack, Boston.
35 Two Cases of Typhoid Fever, with Acute General Peritonitis. C. L. Scudder, Boston, Mass.

28. **Cerebral Surgery.**—Codman reports on the actual results of cerebral surgery at the Massachusetts General Hospital. Operations were done in 28 cases for the removal of a tumor or to relieve pressure symptoms. Seven patients died, 11 showed no improvement, 7 were improved, 3 could not be traced. Eight patients were operated on solely for the relief of pressure symptoms; 4 died, 2 showed no improvement, 2 could not be traced. For the relief of epilepsy, 21 patients were operated on; 9 improved, in 12 no improvement. For drainage of cerebral abscesses, 6 patients were operated on; 5 died, 1 showed no improvement. Codman says that the chance of any success by radical operation is so small, that in any given case diagnosed as brain tumor, even if the symptoms gave evidence of a more or less exact localization, it would be wiser to do an operation simply for the relief of intracranial pressure, rather than to explore with the idea of removing the tumor. Surgical endeavor in brain cases for the present should aim rather at devising an operation which might give relief to intracranial tension without exposing the important motor area to trauma and strangulation through the opening in the skull. It would be particularly satisfactory, he thinks, if an exploratory operation could be devised which might serve at the same time to expose a large area for the inspection of the surface of the brain and when the flap was resutured could be so arranged as to prevent bulging of the motor area. Possibly this could be done by removing all the bone in a large osteoplastic flap, except the portion covering the motor area, and wiring this portion *in situ*.

29. **Brain and Cord Surgery.**—According to Putnam, the history of his cases, taken in connection with the experience of others, leaves no room for doubt that the cleaning up of the results of old injuries to the cerebral membranes and skull results favorably in a fair number of cases. The favorable outcome seems to be due in part to the removal of reflex irritations and to the securing of better conditions of local nutrition of the cortex. The results, however, are strangely variable, and there is a mystery hanging over the matter which only a far better knowledge than we now possess, of the physiology of the brain and the pathogenesis of epilepsy can dispel. The most important point in regard to the treatment of epilepsy by operation is as to the value of excision of motor-areas of the cortex in patients with localized aura. This is still in doubt. There is much to say of a practical character in its favor, but our knowledge of the physiology of the brain and the genesis and nature of the epileptic seizure is still too immature to be utilized satisfactorily as the basis of so radical a procedure.

30. **Nontraumatic Surgery of Brain.**—Bullard presents the following summary of cases: Trephining for epilepsy, 18 patients; results unknown, 3. Traumatic, 12 patients; not relieved, 3; doubtful, 1; relieved, 8. Non-traumatic: apoplexy, with multiple cysts, 1, relieved; idiopathic, 2, 1 improved; in the other, in spite of possible temporary relief, the disease seems to have progressed. Two patients died, and in both multiple cysts of the brain were found at the autopsy. In two other patients cysts were found on operation. Three of these patients were supposed to be due to trauma, one non-traumatic. It seems probable that when cysts are present, the result of operation is likely to be more favorable than in those cases in which they do not exist.

Lancet Clinic, Cincinnati, Ohio.

July 22.

36 *Nephroptosis—New Operative Treatment. E. Harlan, Cincinnati.
37 Observations on the Treatment of Chronic Diseases. C. Pope, Louiville, Ky.
38 Ethyls in General Anesthesia. S. J. Goodman, Columbus, Ohio.

36. **Nephroptosis.**—In cases of dislocation so slight as to cause little trouble, Harlan prescribes the continuous use of a laxative tonic, containing iron, and an elastic abdominal bandage. He uses an ordinary elastic bandage five inches wide, which, when applied, extends from the pubis to the iliac crests, with a loose kidney pad inserted over the cecum. The reason for limiting the support to the top of the ilia is to have all the upward pressure to come from below, crowding the pelvic viscera higher into the abdominal cavity, thus making the viscera themselves the main support of the kidney. He has found this bandage superior to the full abdominal bandage, first, because it remains in position better, being anchored, as it were, in the hollows below the crests; second, it fulfils better the theory of general abdominal support, knowing as we do of the tendency in these cases to a splanchnoptosis on account of the insufficient support afforded the viscera by a weakened peritoneum. This gives equal pressure from below upward, simulating muscular fiber in the elastic support imparted. For the successful treatment of those patients in whom the degree of suffering is greater he has devised the following operative treatment: Cut down on the organ in the line of dislocation from the front; press aside the abdominal viscera over the track of the dislocation and carefully reattach the peritoneum to the back, following up the track until the kidney rests in its original location; imbricate the peritoneum in front of and over the lower end of the kidney if there be enough elongation (and there usually is) of the peritoneum in front of the kidney to allow of sufficient dislocation forward to give rise to pressure symptoms upon the descending portion of the duodenum and the colon. Attach the meson of the ascending and transverse colon (if necessary) to the wall of the back and shorten them, if need be, to bring the bowel into position, as also the hepatic flexure of the colon. Care should be exercised

during the operation not to wound the colica sinistra or colica media arteries, as the case may be, and the kidney must not be placed too high. Remove the appendix. A prolapsed duodenum should be normally replaced and its fixation secured if necessary. Use either silk or catgut ligature. If there be much fat about the kidney it is best to incise the peritoneum and to remove it. If the kidney be adherent to the peritoneum enucleate it from its bed of adhesions and then replace and attach it in the manner described. A continuous superficial catgut suture may also be used to secure the anterior surface of the kidney to the peritoneum, thus obliterating the path in which the dislocated kidney wanders, and re-establishing the normal relations and positions of both the kidney and abdominal viscera, and the equilibrium of the sympathetic and general nervous systems. By reason of the congestion of the peritoneum prompt and efficient union of the latter to the back is secured. Rest in bed with proper diet should bring about perfect recovery in two weeks. No danger of pyonephrosis can result from this operation, as there are no deep sutures through the kidney, and the danger of abdominal troubles is practically *nil*, an aseptic operation being done.

St. Louis Medical Review.

July.

39 *The Surgeon and the Pathologist. J. C. Warren, Boston.
40 *The Influence which the Acquisition of Tropical Territory by the United States Has Had, and is Likely to Have, on American Medicine. G. Blumer, San Francisco.

39.—See JOURNAL, July 15, 1905, p. 149.

40.—See JOURNAL, July 15, 1905, p. 169.

Chicago Medical Recorder.

June 15.

41 *Maloplasty. C. Wagner, Chicago.
42 Convergent Strabismus or Squint and the Modern Method of Treating It. T. A. Woodruff, Chicago.
43 *Shall the Physician Dispense? J. A. Clark, Chicago.
44 *Surgical Treatment of Lacerations of the Cervix Uteri. G. C. Waiss, Chicago.
45 *Enemata of Oxygen Gas. H. J. Burwash, Chicago.
46 Theories of Eclampsia. J. B. DeLee, Chicago.
47 Fistula of the Rectum. C. J. Drueck, Chicago.
48 Therapeutic Verities. C. Reiterman, Chicago.
49 Three Obstetrical Cases. E. V. Davis, Chicago.

41. **Maloplasty.**—In the case described by Wagner an operation was performed for a cancer of the mucous membrane of the left cheek. The tumor had invaded the muscular tissue and fascia of the cheek. It was located opposite the molar teeth, of which the decayed root was continually irritating the adjacent mucous membrane. The glands were not involved. The resulting defect from the extirpation of the tumor necessitated a planing for immediate plastic work, in order to avoid an impairment of the function of the lower jaw bone, or total lockjaw. The operation performed was a modification of that advocated by Gersuny. The functional effect is now, after a number of months, a perfect one, the patient being able to open the mouth to the fullest extent. The cosmetic result is good. The operation is described in full.

43. **Shall the Physician Dispense?**—Clark gives some of the reasons why he believes it best for the physician to do his own dispensing. Patients have more confidence in a medicine given by the physician himself than in one furnished by the druggist. There is no fear of substitution; nor is their case open to gossip in the drugstore. By dispensing his own remedies, the physician saves hours of time to his patients and gains the same number of hours in the treatment. This may mean saving a life in acute diseases. The patient saves money. The physician always knows just what his patients are getting and he has a better chance to watch the effect of his remedies. He will become a better therapeutist by doing his own dispensing. Patients can not get their prescriptions refilled whenever they feel like it. A physician is more certain of getting what he is after, because the drugs are not so likely to vary as do the remedies from the different manufacturing and pharmaceutical houses. Many preparations can not be made extemporaneously. Clark gives four reasons, any one of which he thinks should be sufficient to induce every physician to do his own prescribing: (1) Many more lives are saved to the state and nation. (2) Patients recover in much less time, a great economic saving to the family. (3) Families like it better. (4) It pays the physician by increasing his business, his fees and his cash collections.

44. **Treatment of Lacerations of Cervix.**—Waiss practices a modification of Schroeder's operation in the following manner: The cervix is steadied by an assistant and held just within the vaginal outlet; with the straight scissors two flaps are created. By making firm traction with the vulsella forceps, it is a comparatively simple matter to scalp the cervix with the knife, dissecting the vaginal tissue back about one-half inch or more. On the anterior flap of the cervix and at right angles to the direction of the cervical canal, a transverse cut is made across the face of the flap to the depth of about one-quarter inch. Another cut is made obliquely down through the tissue of the cervix to join this, but not including the vaginal strip which has been dissected back, thus removing a wedge-shaped piece. The same procedure is carried out on the posterior lip. A portion of the posterior vaginal flap in the median line is now united to the cervical canal by two interrupted chromicized catgut sutures; the needle entering the center of the vaginal tissue and passing over the intervening part of the cervical stump, enters above and is then brought out of the uterine canal. The anterior portion is treated in the same manner. When these sutures are tied, the free vaginal tissue will be drawn over the cervical stump to the uterine canal, thus forming a new anterior and posterior lip of the external os. One end of each suture will be left long and the other cut short. The resulting raw surface of the cervical stump must now be united with interrupted catgut sutures which approximate the cut surface, but do not include the vaginal tissue. As these cervical sutures become buried, the operation is finished by bringing the vaginal tissue over the cervical stump with a running suture of fine catgut, the end of which is tied to the long end of the suture employed in creating the new canal on the opposite side. The opposite side is treated in the same manner with the exception that the running suture is tied to the long end of the suture on the posterior side. Sutures No. 1 are used to form a new canal. Sutures No. 2 are used to bring the cervical stump together, and to control hemorrhage. Sutures No. 3 unite the vaginal flaps over the cervical stump. When suture No. 1 is tied, it will pull the cervical canal up and down, and when suture No. 3 is tied to suture No. 1, it will pull the cervical canal laterally, consequently creating a patulous canal lined on all sides with squamous instead of columnar epithelium. A loose gauze pack is placed in the vagina to absorb the discharges for the first two or three days, after which it is removed and the outlet simply protected by boric acid powder and a vulvar pad. If there is any discharge after this, the vagina should be douched out daily with a boric acid solution. If no operation has been performed on the vaginal outlet, the patient is allowed to be up in two weeks. Neurasthenic patients should be kept in bed eight weeks or longer, to get the benefit of a rest cure.

45. **Enemata of Oxygen Gas.**—Burwash has made use of enemata of oxygen gas in the treatment of acute respiratory disease, particularly pneumonia. He says that the introduction of a large quantity of oxygen gas into the intestinal canal not only neutralizes and deodorizes the noxious gases that frequently are found there, but also introduces oxygen through the portal system to the liver, and the already overcharged lungs are resisted in their function of aeration of the blood by this reinforcement.

American Journal of Medical Science, Philadelphia.

June.

50 Cerebrospinal Meningitis. N. B. Foster, New York.
51 *Croupous Pneumonia. T. G. Ashton, and H. R. M. Landis, Philadelphia.
52 Peripheral Obliterating Arteritis as a Cause of Triplegia Following Hemiplegia and of Paraplegia. C. W. Burr and C. D. Camp, Philadelphia.
53 Phases of the Neurotic Heart. B. Robinson, New York City.
54 Trauma of the Mesentery. J. F. Erdmann, New York.
55 *Extensive Burn of the Third Degree. A. M. Fauntleroy, Philadelphia.
56 Acute Flexion (Jones' Position), in the Treatment of Supracondylar Fractures of the Humerus. A. P. C. Ashhurst, Philadelphia.
57 *Splenic Anemia with Hemoglominemia and Decreasing Splenomegaly. J. O'Malley and A. O'Malley, Philadelphia.

58 Three Cases of Hypernephroma. I. C. Herb, Rochester, Minn.
59 Problem of the Treatment of Laryngeal Tuberculosis. W. G. B. Harland, Philadelphia.
60 Tuberculosis of the Prostate. T. R. Crowder, Chicago.
61 Résumé on the Issues Concerned in the Diagnosis and Treatment of Renal Tuberculosis. M. W. Ware, New York City.
62 Effects of Transportation of the Daily Routine on the Rhythm of Temperature Variation. R. B. Gibson, New York.
63 Study of the Metabolism of a Vegetarian. J. M. Swan, Philadelphia.
64 Detection of Minute Traces of Sugar in Urine. E. L. McEwen, Philadelphia.

51. **Croupous Pneumonia.**—Ashton and Landis present analyses made from clinical observations of 991 cases of croupous pneumonia observed in the Philadelphia General Hospital. Of these, 757 were males and 234 were females. The ages of the patients ranged from 1 to 90 years; the majority of cases occurring between the ages of 20 and 70; the second, third and fourth decades showing the greatest number. The general mortality of these cases extending over a period of five years and nine months, was 54.3 per cent., a death rate only to be accounted for by the class of patients from which these statistics are derived. The seasonal occurrence in 706 of the cases was found to be as follows: January, 111; February, 119; March, 125; April, 74; May, 60; June, 27; July, 18; August, 19; September, 10; October, 30; November, 57; December, 76. In 900 cases the right lung was alone involved in 487; the left in 293; both lungs, in varying positions, 120; lesions of the apex alone in one or both lungs, 128 cases. Of the 991 patients, 104 were alcoholic, many of whom developed delirium tremens and still more presented the disease in its various atypical and grave forms. Traumatism appeared to have some causative influence in seven cases. Pain of the peculiar stabbing character common in pneumonia was present in 679 cases; chill was noted in 492 cases; cough in 737 cases; abundance of sputum in 53; blood-tinged and rusty sputum in 537; prune-juice sputum in 14; and absence of sputum in 123; herpes was noted in 47 cases. Vomiting was present in 95; nausea without vomiting in 134; jaundice in 9; nephritis in 207; albuminuria in 232; delirium in 213. The highest temperature range recorded in 991 cases was 108, the issue being a fatal one. In 9 cases, the temperature was subnormal; these patients all developed uremia and all died. Respirations were above 40 in 107 cases; the maximum being 82 in a case shortly before death. The pulse ranged from being uncountable to 26 per minute. The leucocytosis ranged from 10,000 to 75,000. No definite relation between the degree of leucocytosis and the tendency to recover could be elicited. Among the complications noted were the following: Abortion, rheumatism, empyema, erysipelas, influenza, malaria, myocarditis, pleural effusion, typhoid, uremia, hemiplegia, and cardiac dilatation. The course of these cases seems to have been practically uninfluenced by any particular plan of treatment.

55. **Extensive Burns of the Third Degree.**—Fauntleroy reports a case of extensive burn involving nearly all the skin over the abdominal area from the seventh rib downward, the outer surface of the right thigh and buttock and portions of the right leg. The patient was placed in a 3 per cent. boric acid bath, which was maintained continuously, at about 38 C., for ten days, being only removed now and then to allow the tub to be cleaned. Each day the wound was examined and portions of the sloughing tissue removed. The patient expired suddenly on the sixteenth day. Fauntleroy believes that all extensive burns should be treated, if possible, by the continuous warm bath. The method is very restful to the patient, relieves shock, and attention can be given to the burned area without handling the patient or the dressings. When the sloughs have begun to separate, some form of more active continuous antiseptic irrigation, preferably aluminum acetate, is indicated. Food should be strictly liquid and given in small, but repeated, doses. For the shock, the intravenous infusion of normal salt solution often times will give miraculous results.

57. **Splenic Anemia.**—The striking characteristics of the case reported by the O'Malleys are: (1) The fact that the spleen shrank 10 cm. while the case was under observation; (2) there was a marked true hemoglobinemia throughout the last six or seven months of the patient's life.

Kentucky Medical Journal, Louisville.

June.

65 Uses of Chloroform. D. G. Simmons, Adairville, Ky.
66 Syphilis. J. W. Parker, Grays, Ky.
67 Abortion. B. F. Fyke, Springfield, Tenn.
68 Malformations of the Anus; Entire Absence of Anus; Exhibition of Patient Successfully Operated on. P. C. Layne, Ashland, Ky.
69 Croupous Pneumonia—Pathology, Etiology, Symptoms. J. L. Miller, Ashland, Ky.
70 Fracture of Inferior Maxillary; Report of Three Interesting Cases. D. C. Bowen, Nolin, Ky.
71 *Case of Typhoid Fever. T. H. Garvin.
72 Seven Cases of Intestinal Obstruction. E. W. Owen, Irvine.
73 Murdered for Ten Dollars. J. T. Reddick, Paducah, Ky.
74 Progress in General Surgery. I. Abell, Louisville.

71. **Adrenalin in Typhoid.**—Garvin reports a case of typhoid in which a very severe hemorrhage occurred on the twenty-first day. The usual agents employed for the control of hemorrhage proving futile, he resorted to the use of five drops of adrenalin chlorid solution, .001, every two hours for 60 hours. The patient recovered and Garvin is of the opinion that the case terminated favorably because of the use of adrenalin.

Annals of Surgery.

June.

75 *Experimental and Histologic Study of Cargile Membrane. A. B. Craig and A. G. Ellis, Philadelphia.
76 Subperitoneal Pelvic Fibromata. W. F. Whitney and F. B. Harrington, Boston.
76½ Gangrene of the Scrotum. A. D. Whiting, Philadelphia.
77 *Diagnosis and Treatment of Fracture of the Carpal Scaphoid and Dislocation of the Semilunar Bone. E. A. Codman and H. M. Chase, Boston.
78 Relation of Gonorrheal Rheumatism to Seminal Vesiculitis and Its Cure by Seminal Vesiculotomy. E. Fuller, New York City.
79 *Twine Triangular Stitch for Gastro- and Entero-enterostomy. J. W. Maury, New York.
80 Suture of the Spleen for Traumatic Hemorrhage. A. I. Ludlow, Cleveland, Ohio.

75. **Study of Cargile Membrane.**—An experimental and histologic study of Cargile membrane was made by Craig and Ellis with reference to its efficacy in preventing adhesions in the abdominal and cranial cavities and around nerves and tendons, and its ultimate fate in the tissues. The most distant time at which they found unchromicized Cargile membrane existing intact, microscopically, within the peritoneal cavity, was the fourteenth day; in most instances it had disappeared to macroscopic view much sooner. The earliest time at which they found the membrane had disappeared over the area of actual denudation was on the third day. Unchromicized Cargile membrane was buried in living animal tissue, as when placed around tendons and nerves, or in muscle, apparently is absorbed sooner than when placed within the peritoneal cavity. In no instance was so much as a fragment of the membrane observed macroscopically as late as the fifth day, though in the fragmental state membrane was noted microscopically as late as the fourteenth day. Chromicized Cargile membrane when placed within the peritoneal cavity or when buried in living animal tissue, remains unabsorbed much longer than does the unchromicized variety. The two varieties doubtless bear relatively the same relation to each other, so far as absorbability is concerned, as do chromicized and unchromicized catgut. While the unchromicized, and to a less extent the chromicized, variety will adhere firmly to a surface denuded of peritoneum, when such surface is relatively dry, yet neither can be depended on to remain where placed, unless anchored by some method, in a situation which is subject to peristaltic activity. A logical deduction from the results of the experiments seems to warrant the belief that neither variety of the membrane is of value in preventing adhesions within the peritoneal cavity. In every instance, the membrane, until absorbed, appeared to act as a foreign body, and therefore as an irritant. Craig and Ellis believe, from results of their observations, that both varieties of the membrane are of value in preventing adhesions to wounded nerves and tendons when such structures lie in tissues which have been subjected to trauma, operative or otherwise. Their conviction is that for this purpose the chromicized variety is the more valuable, and that several layers of either variety of the membrane, when placed around tendons or nerves, afford a safer and better protection than one layer. When used in the cranial cavity to replace destroyed or removed dura, the

unchromicized variety would be exceedingly difficult to handle on account of its being unmanageable when moist; and on account of the rapidity with which it dissolves, it would be of no special value in this situation even though it could be used with ease. Owing to the facility with which the chromicized variety can be handled, its greater toughness and increased power to resist absorption, it would prove of greater value in replacing the dura. These studies indicate that the membrane is destroyed by a lytic substance, or substances contained in the body fluid. The celloidin capsule experiments, even though bacteria were present in one, show that the membrane is softened, and at least partially absorbed by body fluids without the presence of cells. In the tissues it is split into fibrils, this change being accompanied or followed by the penetration of formative cells of the new tissue enclosing it. Fragmentation, disintegration and absorption finally ensue. Phagocytosis may be safely excluded as a chief important contributing cause.

77. **Fracture of Carpal Scaphoid and Dislocation of Semilunar Bone.**—Codman and Chase urge a more systematic observation and more exact methods of diagnosis and treatment of carpal injuries than exist at present. They believe that the profession at large does not realize that many obstinate sprained wrists are instances of fracture or dislocation of the carpal bones, and that the treatment should be known as definitely as is the treatment of a similar injury of any other joint. The results obtained in six patients operated on lead the authors to recommend a somewhat radical treatment, because the patients who were treated conservatively neither recovered so quickly nor so completely as those who were operated on. The large majority of carpal injuries are either simple fractures of the scaphoid or anterior dislocations of the semilunar bone. These two injuries are frequently combined, and in such cases the proximal fragment of the scaphoid is usually dislocated forward with the semilunar. Simple fracture of the scaphoid gives a definite clinical picture, and may be recognized even without the *x*-ray by the association of the following symptoms, viz, (a) the history of a fall on the extended hand; (b) localized swelling in the radial half of the wrist joint; (c) acute tenderness in the anatomic snuffbox when the hand is adducted; (d) limitation of extension by muscular spasm, the overcoming of which by force causes unbearable pain. A broken scaphoid has little power of repair and appears capable of but slight callous formation. Fractures of the scaphoid which remain untreated or are treated by massage and active and passive motion, generally, if not always, remain united, and the original symptoms often persist for years with only slightly abated tensity. Fracture of the scaphoid may unite if motion of the wrist be prevented during the first four weeks after the injury, but if by this time no union has occurred, future union is unlikely. Excision of the proximal half of a fractured scaphoid gives a somewhat better result than conservative treatment. A posterior incision to the outer side of the tendons of the extensor communis digitorum gives an easy and safe access to the proximal half of the scaphoid. Passive motion of the wrist joint and active motion of the fingers should be begun after this operation. The possibility of the existence of a bipartite scaphoid should be considered in interpreting *x*-rays of simple fracture of the scaphoid, but its occurrence must be very rare in comparison with fracture. Anterior dislocation of the semilunar bone should be recognized clinically, even without the *x*-ray, by the association of the following symptoms: (a) The history of an injury of considerable violence to the extended or twisted wrist; (b) a silver-fork deformity, the posterior prominence of which corresponds with the head of the os magnum, and between which and the lower end of the radius is found a groove representing the position formerly occupied by the now anteriorly dislocated semilunar; (c) a tumor under the flexor tendons of the wrist anterior to the lower end of the radius; (d) a shortened appearance of the palm as compared to the other hand; (e) stiffness of the partially flexed fingers, motion of which, either active or passive, is painful; (f) the persistence of the normal relation of the styloid processes of the ulna and radius and the existence of shortening of the distance from the radial styloid to the base of the first metacarpal. Recent dislocations of the semilunar may be reduced with good result even after the fifth week by hyperextension followed by hyperflexion over the thumbs of an assistant held firmly in the flexure of the wrist on the semilunar. Irreducible dislocations demand excision of the semilunar and the whole or a portion of the scaphoid if there is a coincident fracture of the latter.

79. **Twine Triangular Stitch.**—Maury reports the experimental and clinical status of the method of application of the twine triangular ligature. He employed the strong white twisted twine used in the dissecting room for suspending the extremities of subjects. If the braided line is used, 22 thread, Cuttyhunk, is recommended. An advantage of using a twisted rather than a braided twine lies in the fact that tighter pressure can be made on the tissues to be constricted with the twisted material. It offers less resistance to the tissues and causes less friction on itself when the first knot is made taut. A possible objection to it lies in the fact that during its insertion the twine may uncoil slightly and the operator may inadvertently pass the needle through one of the coils without encountering sufficient resistance to realize it. To prevent this, Maury seizes the stitch at about its center with a thumb forcep and makes sure that it is entirely free before the twine is tied. Twenty-nine dogs and one hog were operated on. On seventeen dogs, the twine triangular gastroenterostomy was done, and in thirteen of these the pylorus or some region of the upper gut was tied off, either at the time of operation or at a subsequent period. The Y gastroenterostomy has been done on five dogs. Seven dogs were experimented on in connection with other work. In one hog, two gastroenterostomies were done February 2. The animal is still in excellent condition. Of all these dogs, four died as the result of evagination of the cut ends of the gut. Three died with tetanoid symptoms. Three died owing to faulty technic, gut punctures, etc. Fifty per cent. of the dogs who underwent the modified technic of cutting out the center of the triangle died of peritonitis. No dogs have died of peritonitis directly the result of the twine triangular stitch. There has been one failure of the stitch to cut out, owing to its not being tied tight enough. The technic of making the stitch is described in full and is illustrated by numerous cuts.

Journal Missouri State Medical Association, St. Louis.

June.

81 President's Address, Missouri State Medical Association. J. N. Jackson, Kansas City.
82 Symposium on the St. Louis Water Supply. E. E. Wall, St. Louis.
83 Tubo-Abdominal Pregnancy, Associated with Parovarian Cyst and Myomatous Uterus. F. J. Taussig, St. Louis.
84 Mixed-Cell Hypernephromatous Tumor of the Kidney, Associated with Calculous Pyelonephritis. F. J. Taussig, St. Louis.
85 Constipation and Its Relation to Diseases of the Rectum. W. H. Stauffer, St. Louis.

New Orleans Medical and Surgical Journal.

June.

86 Annual Report of 1905, to E. B. Craighead, President of the Tulane University of Louisiana, at the Annual Commencement of the Medical Department, May 3, 1905. S. E. Chaillé, New Orleans, La.
87 Ptosis and the Operation of Motais. H. D. Bruns, New Orleans.
88 Genu-Varum and Valgum, Corrected by Osteotomy. E. D. Martin, New Orleans.

Northwestern Lancet, Minneapolis, Minn.

June 1.

89 Appendicitis in Relation to Pelvic Disease. J. C. Webster, Chicago.
90 Diagnosis of Latent Pulmonary Tuberculosis. L. A. Nippert, Minneapolis.
91 Tonsillectomy for the General Practitioner. J. A. Watson, Minneapolis.

Medical Herald, St. Joseph, Mo.

June.

92 Clinical and Operative Phases of Appendicitis. A. H. Cordier, Kansas City, Mo.
93 Critique of the Medical Profession of St. Joseph. O. B. Campbell, St. Joseph.
94 Syncope. W. T. Waugh, Chicago.
95 Consideration of Recent Methods of Correcting Retrodisplacements of the Uterus. C. H. Wallace, St. Joseph, Mo.

Archives of Otology, New York.

June.

96 Mastoiditis in an Infant with a Sequestrum Consisting of a Large Segment of the Petrous Portion of the Right Temporal Bone. W. C. Braislin, Brooklyn.

97 Two Anatomic Anomalies Encountered During the Performance of Mastoid Operations. W. C. Braislin, Brooklyn.
98 Mooted Points in the Treatment of Protracted Cases of Acute Middle-Ear Diseases and their Complications. A. Wiener, New York.
99 Two Cases of Acute Otitis Media Suppurativa, Followed by Mastoiditis and Meningitis, and Caused by the Diplococcus Intracellularis of Weichselbaum. G. Bacon, New York.
100 Infective Sigmoid Sinus and Jugular Thrombosis Complicated by Lepto-meningitis; Lumbar Puncture; Subdural Irrigation; Death. J. D. Richards, New York.

Medical Sentinel, Portland, Ore.

June.

101 Progress in Nervous and Mental Diseases. Wm. House, Portland.
102 Extirpation of External Carotid Arteries with Branches, for Cure of Certain Malignant Growths. E. P. Geary, Portland.
103 Prolapse of the Uterus and Its Treatment. A. J. Giesy, Portland.

Annals of Gynecology and Pediatry, Boston.

June.

104 Diphtheria, Its History and Control by Antitoxin. M. Long, Hingham, Mass.
105 Investigations of the Energy of the Life Functions in Women, After Extirpation of the Uterus, with and without the Adnexa. Drs. Mandl and Burger, Boston.
106 Consideration of Recent Perineal Lacerations. G. Clarke, Cambridge.

Canadian Practitioner and Review, Toronto, Canada.

June.

107 Cystic Degeneration of the Villi of the Chorion and Its Relation to Chorion Epithelioma. C. J. C. O. Hastings, Toronto.
108 Symptomatology and Diagnosis of Smallpox from a Study of Thirty-three Cases. G. E. Greenway, Toronto.

Pacific Medical Journal, San Francisco.

June.

109 Address, College of Physicians and Surgeons. D. M. Delmas, San Francisco.
110 Relation of the Public to the Medical Profession. H. D. Power, San Francisco.
111 Is the Mosquito a Disseminator of Malaria? J. M. Hurley, San Bernardino, Cal.
112 Use of Copper Sulphate and Calcium Oxid as a Deodorant, Disinfectant and Possible Purifier of Water Supplies. C. E. Jones, San Francisco.
113 Urethral Chancre with Misleading Complications. L. Gross, San Francisco, Cal.

Denver Medical Times.

June.

114 Psammoma of the Maxillary Sinus. J. C. Munro, Boston, Mass.
115 Rheumatoid Pains Following Injuries in High Altitudes. C. F. Kiefer, Fort D. A. Russell, Wyo.
116 Congenital Ulcer of Stomach. J. N. Hall and T. H. Hawkins, Denver.
117 Infection with Fly Larvæ. W. C. Mitchell, Denver.
118 Medical Ethics. B. B. Frankle, Pueblo.
119 Normal Obstetrics. T. M. Burns, Denver, Colo.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 8.

1 The Nature of Tabes. W. R. Gowers.
2 Indirect Injuries of the Optic Nerve. J. J. Evans.
3 *Substitute Feeding in Infants. T. H. Sanderson-Wells.
4 Increase in the Consumption of Animal Food; a Survey of the Past Fifty Years. C. Watson.
5 *Clinical Method for the Quantitative Estimation of Uric Acid in Urine. N. F. Surveyor.

3. **Substitute Feeding in Infants.**—Sanderson-Wells concludes that all proprietary foods are bad because, (1) they are all deficient in fat, one of the most essential elements of an infant's food; (2) they are not antiscorbutic; (3) they contain as a class too much sugar; (4) they mostly contain foreign elements: starch, maltose, cane sugar, etc. Wet nursing, he declares, is seldom or never justifiable on the following grounds: (1) It is inaccurate. The milk of one mother does not necessarily suit the child of another, and although analysis is possible it is practicable, and we have little chance of modifying the supply to suit our requirements. (2) It is inconvenient, upsets the house. Domestic difficulties are great and misconduct frequent. (3) No examination, however careful and thorough, will exclude the presence of syphilis in a woman. In preparing cow's milk for the use of the infant, careful attention must be given to having the various constituents in as nearly the same proportion as they are found in mother's milk. Lactose is the proper sugar to use. The milk must be absolutely sterile, and this is best attained by pasteurization at 70 C., for thirty minutes.

5. **Method for Quantitative Estimation of Uric Acid in Urine.**—Surveyor describes his method as follows: For this method, from 5 to 10 c.cm. of urine is quite sufficient, and the only reagent required is a couple of tiny drops of pure hydrochloric acid; the drops must be so small that 50 such equal 1 c.cm. of the acid. This can be easily managed by using a capillary tube, drawn out in a blowpipe like the ordinary glass bristle used for bacteriologic purposes. Have the urine as free as possible from extraneous dirt. Remove albumin and pus, if present, by adding acetic acid and heating the urine. Render the urine slightly alkaline by adding tiny drops of strong NaHO—boil it, and take 5 c.cm. of this boiled urine for examination. Add two tiny drops of HCl from a capillary pipette (each drop equals 0.02 c.cm.), stir it well; see that it is quite clear again. Freeze it and centrifugalize till the whole has remelted, and read off the percentage of deposit as soon as the temperature is about 25° C. In case there is much pus or albumin or any other deposit is present, it must be removed by boiling 10 c.cm. of the urine acidulated with a tiny drop of glacial acetic acid, and 5 c.cm. of the filtered urine is to be treated as above. The temperature of the freezing mixture is about 12° C. in a room at 25° C.

The Lancet, London.

July 8.

6 Clinical Lecture on Automatic Flushing of the Stomach in Certain Cases of Vomiting. W. H. Bennett.
7 *Analysis of 300 Consecutive Gynecologic Laparotomies. A. H. N. Lewers.
8 *Hypertrophy of the Mammary Glands. J. Darquier.
9 Sporadic Case of Cerebrospinal Meningitis. J. R. Collins.
10 Perforated Gastric Ulcer, with Fatal Hemorrhage from the Bowel in an Infant Forty-five Hours Old. A. G. Bisset.
11 Rates of Attack by Enteric Fever in Ninety Large Towns of England and Wales. G. S. Buchanan.
12 Examination of Cultures and Smears from the Throat and Nose. W. T. G. Pugh.

7. **Analysis of 300 Laparotomies.**—The cases tabulated by Lewers include the following: ovariotomy, 100; abdominal hysterectomy for fibroids, including panhysterectomy for fibroids, 73 cases, 4 deaths; removal of uterine appendages for chronic inflammation, 47 cases, 4 deaths; laparotomy for ectopic pregnancy, 33 cases, 1 death; abdominal hysterectomy, for conditions other than fibroids, 17 cases, 6 deaths; exploratory laparotomy, 14 cases, 5 deaths; Cesarean section, 8 cases, 1 death; myomectomy, 3 cases; hysteropexy, 5 cases. The mortality for the whole series was 7 per cent. The article is to be concluded in a subsequent issue.

8. **Hypertrophy of Mammary Glands.**—In the case reported by Darquier the mammæ were enormously increased in size, reaching the umbilical line. When submerged in water, the right breast displaced 15 liters and the left 11 liters. The right breast weighed 13 kilograms, the left, 10 kilograms. Microscopic examination showed that the enlargement was due to the formation of fibrous meshes with few cells and many vessels with thick fibrous walls. The glandular acini were atrophied by compression. The pathologic diagnosis was chronic fibrous mammitis and diffuse fibroma of the mammæ.

Journal of Tropical Medicine, London.

July 1.

13 Reports of Commission on Investigation of Mediterranean Fever. Part II.
14 Cataracts and Secondary Cataracts and Membranous Opacities of the Vitreous. G. H. Fink.
15 *Classification and Pathology of Beriberi. H. Wright.
16 Experiments Relative to the Toxicity of the Disinfectant Cyllin. D. Sommerville.

15. **Classification and Pathology of Beriberi.**—Wright makes the following classification: 1. Acute pernicious beriberi, in which the onset is sudden, with more or less severe symptoms of gastroduodenal irritation and cardiac paralysis. There may be varying degrees of pulmonary, vaso-motor and sensorimotor paresis. On first examining a case in this class it may generally be predicted that death will shortly occur. 2. Acute beriberi, in which the onset is sudden, though never so sudden as in acute pernicious beriberi, with more or less noticeable symptoms of gastroduodenal irritation and concomitant vasomotor and sensorimotor paresis. 3. Subacute beriberi, in which the onset of the disease is more insidious than in either of the above classes of cases; in which the symptoms of gastroduodenal irritation may escape notice, and in which the

concomitant sensorimotor and vasomotor paresis may be so slight as to involve only one or two movements, a few areas of sensation and the vascular supply to the front of the legs. 4. Beriberic residual paralysis or neuritis, or the disease as it appears after the symptoms of gastroduodenal irritation have disappeared, and after the causal organism and its toxin have accomplished their work and been eliminated.

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 76.

17 (Year LXIX No. 23.) Case d' achondroplasie. Sevestre.
18 (No. 24.) Prolapsus de la muqueuse de la vessie à travers l'urèthre chez la femme (of female bladder through urethra). F. Villar.
19 *Influence nocive de la vélocipédie et de l'automobilisme sur la vision et les moyens d'y remédier. Mirovitch.
20 *Alimentation dans la tuberculose expérimentale. Influence nocive de la viande cuite (injurious influence of cooked meat). C. Richet.
21 (No. 25.) *Utilisation des matières grasses chez les tuberculeux (of fats). Laufer and Pouchet.
22 *Action thérapeutique des formiates. H. Huchard.
23 Mort rapide de 2 juments ayant présenté à l' autopsie une plénitude extrême de l'estomac (death of mares solely from overeating). H. Benjamin.
24 (No. 26.) *Heredo-syphilis de seconde génération. E. Fournier.

19. **Protection of Eyes in Automobiling.**—Mirovitsch expatiates on the injury to the eyes from the high speed in bicycle or automobile riding. He suggests as a remedy some protecting goggles he has devised which shut out the wind entirely, while allowing a gentle circulation of air.

20. **Zomotherapy in Tuberculosis.**—Richet's experiments on tuberculized dogs have attracted considerable attention. He fed a certain number on raw meat exclusively, the same number on cooked meat exclusively, and others on starchy foods, etc. At the end of the year, the group fed on raw meat was in far the best condition, while all the dogs fed on cooked meat had died. Animals kept fasting thrived better than those fed on cooked meat. He ascribes this to the fact that they lived on their reserves, which are essentially raw meat. He does not venture to apply these results to man, although he remarks that it is certainly suggestive that in experimental tuberculosis cooked meat kills, while raw meat sustains life in better condition than any others of the foods.

21. **Utilization of Fats in Tuberculosis.**—Laufer has become convinced in the course of much clinical and experimental experience that the albuminoids, carbohydrates and fats must be ingested in a certain definite proportion to derive benefit from them. When one of these groups is given predominance, especially the fats, the weight increases rapidly at first, but it soon becomes stationary and then rapidly declines, while there is more or less anorexia. In presenting his memoir Pouchet confirmed these statements and emphasized the importance of the diet for preparing a favorable soil for the action of drugs or therapeutic measures in general. The resisting powers of the patient depend on the diet. His food determines his general condition and his receptivity for drugs.

22. **Formates in Therapeutics.**—Huchard protests against the sensational statements that have been credited to him in regard to the tonic action of the formates on the muscular system. He also warns against the danger of immoderate dosage, disclaiming all responsibility when more than from 1 to 2 gm. is taken during the twenty-four hours. A Lyons physician has already called attention to what he calls "formic fever," due to improper use of the drug.

24. **Syphilis Inherited to the Third Generation.**—Fournier has collected 116 cases of the lesions or stigmata of the second generation of hereditary syphilis. His analysis of the data compels him to accept the possibility of this transmission of inherited syphilis from the grandparent to the grandchild. It generally manifests itself by dystrophic stigmata, similar in every respect to those of inherited syphilis in the first generation, but occasionally the lesions may be those of true, virulent syphilis. The latter form was observed in about 14 per cent. of the cases. Only three-fifths of the descendants in this second generation lived to grow up.

Presse Médicale, Paris.

Last indexed page 76.

25 (No. 44.) *Miners' Anemia in the Army.—L'anémie du mineur en milieu régimentaire. Thooris.
26 Technique de l' appendicectomie. Chaput.
27 (No. 45.) *La tuberculose en Chine (China). A. F. Legendre.
28 *L'obstruction brusque dans le tubage sans surveillance. E. Escat.
29 (No. 46.) Diagnostique des tumeurs de l'hypochondre droit (in right hypochondrium). T. Tuffier.
30 (No. 47.) Des embolies hydatiques de l'artère pulmonaire. M. Garnier and J. Jomier.
31 *L'hydro-hémolyse. Recherche des microbes dans le sang. L. Nattan-Larrier and A. Bergeron.
32 (No. 48.) L'atonie dans les dyspepsies. A. Mazeran.
33 Comment il faut administrer les formiates (mode of administration of formates). A. Martinet.
34 (No. 49.) Le congrès colonial, Paris, June 5-9, 1905.
35 Des fractures supra-condyliennes de l'humérus chez l'enfant (in children). Deniker and P. Dezarnaulds.
36 *Traitement des dartres du visage (patches on face). L. M. Pautrier.
37 (No. 50.) *La cystoscopie à vision directe. G. Luys.
38 *Nouvelle pathogénie des varices. R. de Gaulejac.
39 *L'alimentation par les oeufs (eggs). A. Martinet.
40 (No. 51.) Des kystes hydatiques des os du crane (of skull). Antoniu.
41 *De la médication oxytocique (sugar and quinin). G. Keim.
42 (No. 52.) *Pylorospasme avec hypersecretion et tétanie. T. Jonnesco and J. Grossman.
43 The Formates in Therapeutics. C. Vermeulen.
44 Traitement de l'ozène par les injections de paraffine solide. G. Mahu.
45 Report of German Congress of Surgery. (Commenced in No. 40.)

25. **Miners' Anemia in the Army.**—Thooris found a number of cases of severe miners' anemia among the new recruits who previously had been miners. The ankylostoma was found in the majority, but in others the anemia seemed to be due to the *Trichocephalus bothriocephalus* or ascaris. The helminthiasis had an evident debilitating effect, as a rule.

27. **Tuberculosis in China.**—Legendre describes the condition observed in the remote province of Se Tehouen, where he has established a medical mission. Tuberculosis and opium smoking are very common, and his impression is that the Chinese race is thoroughly decadent both physically and morally.

28. **Fenestrated Tube for Intubation.**—Escat gives illustrations of the tube he has devised to prevent the possibility of sudden obstruction. There are three or four openings in the lumen, on each side, arranged in a spiral. Even if the main lumen becomes obstructed at any point, there is still room sufficient for ingress and egress of air at some part of the tube. He suggests that the membrane obstructing the tube might be forced out of it by using a Politzer bag or similar devise to blow it through.

31.—**New Technic for Detecting Microbes in Blood.**—The technic described is based on the hemolytic properties of distilled water. The clot derived by centrifugalizing a little blood diluted with distilled water is used to inoculate animals on culture media. The positive results parallel those of other more complicated technics. The proportions must be exactly 200 gm. of water for 10 c.c. of human blood or pleural effusion. The mixture is shaken in the vial for three or four minutes and then distributed in from two to four centrifugalizing vials, and centrifugalized for fifteen minutes. There is very little sediment, and it is free from fibrin. The fluid is decanted, and the sediment can be aspirated with a pipette and spread on from 6 to 8 cover glasses, fixed with heat, and stained by Ziehl's or other technic as usual.

36. **Treatment of Rebellious Patches on the Face.**—Pautrier refers to what he calls *dartres*, a vague French term meaning a rebellious skin affection, which may be dry impetigo, eczema or pityriasis. It may be cured in children sometimes by merely substituting salted water for the ordinary faucet water, with or without sodium borate or bicarbonate. In women, all irritation from veils, sun, wind, extreme cold, etc., should be avoided and the face should be bathed in water that has boiled long, thus getting rid of some of its lime. The affection is probably due to the streptococcus, and suitable local treatment should be used. He commences with Brocq's salve:

R.	Sodium borate	gr. viii	50
	Zinc oxid	3ss	2
	Cerate or vaselin	3ivss	18
	Tincture of benzoin	m. xv	9

A glycerolate with tannin and calomel may be useful or a salicylic-acid combination. The salve should be wiped off in the morning, and during the day a mixture of sodium borate, glycerin and rose water should be applied. The nasal mucosa should be disinfected at the same time with tepid salt solution or otherwise once or twice a day.

37. **Cystoscope for Direct Vision.**—Luys has perfected his cystoscope which does away with the prism and the necessity for distension of the bladder with air or water. He applies it in the Trendelenburg position and gives illustrations of the instrument and its mode of application, enumerating six special advantages of this technic.

38. **Pathogenesis of Varices.**—Gaulejac suggests that varices may be due to an extra strain on certain parts of the veins. These overstrained valves yield, and varicose enlargement is the result. Compression of the walls of the vein, always at a certain place, impairs the nutrition at this point. This explains why the bicycler, the coachman, women working the sewing machine or in the habit of sitting long, have varices. It also demonstrates how they can be avoided by changing the position frequently, thus changing the point of compression and strain. This conception of varices entails the specificity of varicose enlargements according to trades and manners of life. It also demonstrates that gentle, varied exercise is the best means of prophylaxis and treatment. If this fact were borne in mind in the care of the puerperium, phlebitis might become less common. It is much less frequent among the women of the working classes than among the well-to-do, probably because they are obliged to resume early their household duties instead of staying so long in bed after delivery.

39. **Eggs in Diet of the Sick.**—Martinet declares that the cook is as important an auxiliary as the pharmacist for the physician, and that an annotated cookbook should be found in every physician's library. He gives a number of recipes for various egg dishes, with their calories, mentioning a number of points that should be observed, but of which the average cook is ignorant. For instance, if omelets, custards and such dishes are cooked until the albumin is entirely coagulated, their digestibility is not that of a soft-boiled but of a hard-boiled egg. The addition of butter, etc., also reduces their digestibility. He says that the Italian *zabaglione*, well made, represents about 800 calories and can be taken by the most delicate stomachs. He gives the directions for it and also for "egg beer," which represents 240 calories. The yolk of egg in bouillon he regards as the best dish for the convalescent. The yolk of egg in 200 gm. of milk represents 185 calories, with about 11 gm. of albumin, 12.5 gm. fat, and 9 gm. of carbohydrates. The proportion of fat is too high in comparison with the carbohydrates. This can be partially corrected by adding 15 gm. of sugar and a pinch of salt.

41. **Oxytocic Medication.**—Keim discusses the action of sugar and of quinin on the contractility of the uterus. Both have a marked and rapid action in promoting the contractions, but only when labor is already established, when the uterine muscles are already in play. He gives the sugar or lactose diluted and between meals. When labor commences, if it is normal and rapid, the reserves of sugar in the organism suffice for delivery, but, if these reserves are not quite enough, sugar given when the dilatation of the cervix has reached a certain point will aid materially in successful delivery. It increases the muscular energy and aids in the expulsion of the child. He gives the sugar or lactose in three doses of 25 gm. each at half-hour intervals. Quinin has a similar action, but it has several disadvantages, while sugar has none.

42. **Pyloric Spasm and Tetany.**—Jonnesco describes a case of gastric hypersecretion, dilatation and tetany successfully treated by surgical interference. Operations have been performed in 11 such cases to date, with 8 recoveries and 3 deaths from postoperative complications (Fleiner and Gumprecht). In Jonnesco's case there was permanent hyperchlorhydria with insufficiency of the second degree. The various symptoms were noticed for about ten years. They grew worse during the last two, the attacks of pain became more frequent and were relieved only by copious vomiting. The extreme hyperacidity after an error in diet induced pyloric spasm, probably to prevent the invasion of the intestine by the too irritating stomach contents. The painful spasm was followed by vomiting, and the patient was then relieved until the next attack, the stomach motility in the interval being apparently normal. After years of these troubles the emaciated patient restricted himself for a week to exclusively starch diet, which materially aggravated the condition, which was not improved by tentative mercurial treatment nor by a course of olive oil. Hypersecretion became superposed on the hyperchlorhydria; the secretion amounted to several quarts a day, while scarcely any was evacuated into the intestine. The consequent congestion in the walls of the stomach induced hematemesis, and the great loss of fluids by the hypersecretion in the stomach was the cause of the tetany. This was relieved by saline infusion, and the hard and thickened pylorus was excluded from the alimentary canal by a side-to-side transmesocolic gastroenterostomy, which cured all the symptoms as if by magic. Two months later the stomach content was approximately normal. This case confirms Fleiner's assumption that the loss of fluids reduced the dilution of the tetanizing toxin normally present in the blood. When not diluted enough to pass through the renal filter it accumulates in the stomach—although not produced there originally—and induces actual tetany.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 224.

46 (XXXII, Nos. 25-26.) *Aid to Rapid Suturing.—Ein Hilfsmittel zu raschem und exaktem Nähen. O. Bernhard (Samaden).

47 (No. 27.) Zur operation der komplizierten Hasenscharte (complicated hare-lip). Küster (Marburg).

46. **Aid to Rapid and Exact Suturing.**—Bernard's observation, the surgeon, after a long and tedious operation, is too apt to slight the suturing of the skin or to leave it to some assistant, and to remedy this he uses a set of clamps similar to Tiemann's bullet forceps. The extreme tips curve abruptly inward, the tips crossing and very sharp, the handles locking. These "wound clamps," as he calls them, answer the same purpose as Michel's clamps or agrafes, but, unlike them, can be used for each tier of the suture in turn.

Centralblatt f. d. Grenzgebiete, Jena.

Last indexed XLIV, page 717.

48 (VIII, Nos. 1-4.) *Die operative Therapie der Gehirn-Syphilis (of brain). E. Stransky. Collective review of recent literature.

49 *Erfolge der chirurgischen Behandlung bei Peritonitis. W. Klink. Collective review.

50 *Roentgen-Behandlung bei Leukämie und Pseudo-Leukämie. K. H. Schirmer. Collective review.

51 (Nos. 4-7.) *Stab Wounds of Spinal Cord.—Stichverletzungen des Ruckenmarkes. G. Flatau. Collective Review.

48. **Operative Treatment of Syphilitic Brain Lesions.**—Stransky reviews forty-eight articles bearing on this subject, which, he remarks, has been better studied in America and England than elsewhere. He cites the details of the various cases in which an operation was done, his general impression being that the unfavorable termination in some cases was due to the incorrect localization or age of the process before intervention. The syphilitic nature of the lesion is no indication against operating, but rather the reverse, if specific treatment does not promptly relieve or if it can not be waited for. The physician should merely advise the operation, not urge it. Gummata in the brain are generally of meningeal origin, and the symptoms may be due exclusively to a syphilitic affection of the meninges. In quite a large proportion of the cases of syphilitic cerebral lesions treated by operation the relief and cure obtained by the operation have proved permanent. The prophylactic value of such interventions can not be overestimated.

49. **Surgical Treatment of Peritonitis.**—Klink's article is based on 598 articles on this subject, the total number of cases on record now being 1,459, with 643 recoveries and 816 deaths. He tabulates the cases reported by various authors, with columns of recoveries and deaths. Lennander's statistics in 1904 were 283 operations of this kind, with 236 recoveries to only 57 deaths; in 1895 his statistics were 10 recoveries and 4 deaths, and in 1899, 2 recoveries and 4 deaths. Only two of the other surgeons listed have passed the one hundred mark, Sonnenburg with 58 recoveries and 55 deaths (1900) and von Beck with 54 recoveries and 46 deaths (1903). The proportion of cures has risen from 27 per cent. before 1898 to 59 per cent. The proportion of cures is 18 per cent. when the operation is done in the first three weeks in case of typhoid perforation. On suspicion of perforation, the surgeon should operate

at once, not waiting for the shock to pass over. The moribund and the decrepit aged should not be operated on. In 1,069 cases the peritonitis was the result of appendicitis. The proportion of cures was 35 per cent. (1888-1904), but in the 482 operations performed since 1900, 45 per cent. of the patients were cured. In 52 cases of peritonitis from gastrointestinal perforation, 27 per cent. of the patients recovered, and 50 per cent. in 32 cases in which the peritonitis had developed following some suppurative gynecologic affection, generally a pyosalpinx. In typhoid, perforation of the large intestine displays a tendency to encapsulation, not noted in case of perforation of the small intestine. The latter runs a rapidly fatal course unless arrested by operative intervention. There is no meteorism during the first twenty-four hours, unless pre-existent. It develops later and is an accessory sign of the functional obstruction of the intestine resulting from the peritonitis. If the latter remains circumscribed, the paralysis of the intestine may spontaneously subside. The laparotomy relieves the intestine, but the majority of the patients who died after the laparotomy did not succumb to the direct consequences of the peritonitis, but to the unrestrainable progress of the ileus. The perforations were multiple in about 10 per cent. of the cases on record. In 80 per cent. the perforation was located just above the ileocecal valve; in 12 per cent. in the colon, and in a few instances in the appendix. Peritonitis by contiguity can not be absolutely differentiated from perforation peritonitis, but it may heal spontaneously. Rupture of the typhoid spleen and of suppurating mesenterial glands must also be remembered in differential diagnosis. Peritonitis due to the action of the pneumococcus is generally cured by operative intervention. Forty out of 50 children operated on for this cause have recovered. All that is needed is evacuation of the abscess and extensive drainage. In children, the onset of the affection is as stormy as that of any peritonitis, but it soon passes into a chronic phase. The thick, creamy, greenish pus may perforate through the umbilicus. It may accumulate by the quart, but the large proportion of fibrin induces formation of adhesions, and they are responsible for the generally favorable outcome. The pus accumulates near the umbilicus, in the hypogastrium or iliac fossæ. The affection may last for weeks, but the child is doomed without surgical treatment. The condition is rare in adults and assumes more the aspect of ordinary peritonitis. Typhoid, appendicitis and tuberculous peritonitis must be excluded in the diagnosis.

50. **Roentgen Treatment of Leukemia and Pseudo-leukemia.**—Seventy articles on this subject have already been published in eight different countries since Pusey's and Senn's pioneer work in 1902 and 1903. Schirmer cites the details of each of the 72 cases on record of leukemia treated by Roentgen exposures. In nearly every instance, the general health was notably benefited. The spleen grew smaller and the leukemic composition of the blood became improved or the blood findings became normal. In some cases there was a transient disappearance of myelocytes. This freedom from symptoms, it has been found, is liable to last for several months. Recurrences are also amenable to the same treatment. Indications for prophylactic exposures during an interval free from morbid manifestations must be based on the blood findings at the time. Similar favorable results have been obtained in Banti's disease, and Dinkler has reported a case of idiopathic enlargement of the spleen which subsided under Roentgen exposures without recurrence to date. As the erythrocytes show a marked resistance to the exposures, no success need be anticipated in pernicious anemia, especially as Grawitz has recently directed the treatment of this affection into new routes by his assumption of causal intestinal autointoxication. (See these columns, page 638 of volume xliii.) The local action of the Roentgen rays has no influence on toxins in the circulation. Roentgen treatment of pseudoleukemia is older than that of leukemia, but not a single instance of failure has been reported to date. As Senn's name is connected with the first application of the *x*-rays to leukemia, so Pusey takes the lead in the cases of pseudoleukemia, his first publication having appeared in THE JOURNAL, Jan. 18, 1902, a year before Senn's. In every case known, the rays have caused the rapid involution of the glandular tumors. The enlarged glands subside more slowly than the enlarged spleen as a rule. On account of the multiple localizations, the exposures were generally more numerous and more intense than in the cases of leukemia, and by-effects were more frequently observed. Hard tubes mostly were used. Milchner and Mosse advise exposure of the peripheral portion of the bone marrow rather than the center, as more cells are accumulated at the periphery. Perthes covers the skin with a thin sheet of tin foil to divert any possible soft rays. Guerra enhances the activity of the rays by preliminary subcutaneous injection of methylene blue. Levy-Dorn recommends what he calls radial exposure, that is, to expose the focus on two or more sides, in order to insure the deeper penetration of the rays. A large proportion of the Roentgen energy is lost by the resistance of the tissues. He advocates increasing the distance to 30 cm., as the penetrating action of the rays under the skin does not diminish in the same proportion as their action on the external skin. He thinks that too abrupt resorption of pathologic masses is liable to be injurious. He has observed two cases in which retrogression of sarcomata was accompanied by conditions suggesting collapse, with intense sweating, etc. A larger number of "refractory" doses is borne much better. His method of partial radiation of the single glands and groups of glands seems logical. Heineke's researches, described in THE JOURNAL on page 86 of volume xliii, are cited by Schirmer as having established a scientific basis for all this empiric work. He regrets that so few of the cases have been followed systematically to date and the remote results published.

51. **Stab Wounds of Spinal Cord.**—Flatau has found 108 communications on this subject in the literature, and analyzes the findings in the numerous cases reported, as also in the experimental researches. He thus presents a composite picture of all that is known on the subject to date. The lesions induced by a stab or cutting wound of the spinal cord differ with the violence of the injury, whether splinters of bone or scraps of clothing were carried into the wound, and whether the marrow was cleanly incised or crushed, and whether there was much hemorrhage and inflammation. The communications on the reparatory processes generally harmonize with Stroebes' experiences. Regeneration of conducting fibers is not probable after a stab wound.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

52 (XXXI, No. 24.) *Treatment of the Morbidly Lean.—Ueber die Behandlung der Abmagerung. W. Ebstein.
53 *Action of Alcohol on Circulation.—Wirkung des Alkohols auf den Blutkreislauf des Menschen. M. Kochmann.
54 *Foreign Bodies in Esophagus, etc.—Die traumatischen Erkrankungen der oberen Speisewege und ihre Behandlung. G. Glücksmann.
55 *Ueber Lungentuberculose und Schwangerschaft, nach Beobachtungen im Hochgebirge (and pregnancy). O. Burckhardt.
56 Advances in Treatment of Laryngeal Affections.—Fortschritte in der Behandlung der Kehlkopfkrankheiten. Hopmann.
57 *Tuberculöse Ohrerkrankungen im Säuglingsalter (ear affections in infants). Haike.
58 Ueber Metastasenbildung beim Adenocarcinom der Mäuse (metastasis in mice). J. W. Baesluck (Buffalo).

52. **Treatment of the Morbidly Lean.**—Ebstein groups the causes of morbid leanness as those accompanied by other morbid symptoms and those in which the individual grows thin without any other appreciable morbid manifestations. Long-continued intellectual work is one cause of morbid leanness. After removing the cause, treatment should be symptomatic, and many hints can be gained from the experiences in fattening animals for the market. Sheep and cattle can be kept fat for a long time on little food by keeping them from active exercise and protecting them against cold. Rest and warmth are, therefore, important factors in promoting the taking on of fat. Psychic measures are frequently valuable, especially in case of loss of appetite. A carefully regulated, rational utilization of the fat-sparing action of alcohol is also advisable, as well as administration of arsenic and regulation of the bowels. The main point in treatment, however, is the diet. Abrupt change of diet is not wise, but the more fat taken the better. In his experience with treatment of obesity he found that as the patients lost their fat their heart action became much improved. His experience has further shown that ingestion of carbohydrates causes deposits of fat in and around the heart, thus

hampering its action, while ingestion of fats is free from this danger. This coincides with what is observed in the hearts of pigs fattened on fats. He consequently orders fats for his patients instead of carbohydrates. Neurasthenic conditions demand change of environment and treatment in a special institution, therefore, is indispensable in such cases, with the application of individualized physical and psychic measures. The physician should be a model for the patient not only in what he says, but in what he does. Ebstein pays a high tribute to G. M. Beard, who invented the term neurasthenia, and remarks that his principles are the basis of almost later work in this line. In conclusion, Ebstein gives the daily bill of fare for a morbidly lean person in his private clinic. At 7 a. m. oatmeal porridge, into which butter has been stirred. At 8, milk or cocoa, with a buttered roll or piece of zwieback. At 9, bouillon, with egg or kefir and a slice of bread. At 12, a wineglass of port or madeira, with a few cakes. At 1:30 p. m., dinner, bouillon, with or without an egg stirred in it; fish or a little meat, with a change of light vegetables, or with potato, rice pudding, or boiled rice, green peas or beans, roast meat, jelly, and some nourishing flour pudding. At 4 p. m., milk or cocoa, with a roll or piece of zwieback. At 6, kefir or milk, and at 7:30, milk or gruel and bread, with a slice of cold meat or some warm hot meat. Butter should be taken freely at every meal, and the amounts of the different articles of food should be small at first and gradually increased, studying the patient's tastes and wishes.

53. **Action of Alcohol on Circulation.**—Kochmann's experiments on animals and on healthy and sick persons has demonstrated that alcohol raises the blood pressure. This is due to a vasoconstriction in the domain of the splanchnic nerve while there is vasodilatation in the peripheral circulation. These vasomotor changes increase the blood supply in the heart muscle and thus stimulate it to renewed activity.

54. **Foreign Bodies in the Esophagus.**—The full title of Glückmann's article is "Traumatic Affections of the Upper Alimentary Canal and Their Treatment." This title expresses the motive of his communication, which is to call attention to the extremely traumatic character of such an event as the swallowing of a foreign body, and the liability to infection with serious complications, even fatal septicemia. The physician must also bear in mind the possibility of infection from the instruments he uses in extraction of the foreign body. The patient usually locates the foreign body by pointing through his mouth when it is above the constrictors of the pharynx, while he points to his neck when it is located farther down. The soft, comparatively insensitive tonsil tissue seems to favor the penetration of sharp foreign bodies, such as needles or fishbones. If the patient in such a case locates the pain from the outside, pointing to the side of the neck near the larynx, it will be found that the foreign body has passed farther along or expelled by the vigorous reflex action of these parts, and that the pain is the result of the local damage inflicted. It frequently happens that a person with pharyngitis and reflex neuroses imagines that he has swallowed a foreign body. A scrap of crust scratches the irritated mucosa and he is convinced that it is a severe foreign-body lesion. Careful examination of mouth, pharynx and larynx, with digital exploration of the constrictor muscles of the pharyngeal region, are sufficient at first. No instrument should be used, but radiography will be found a great help, and also the esophagoscope and extractor with the dilating ball which are the features of his instrument, previously described and illustrated in THE JOURNAL, page 157 of volume xliii. He reports a number of cases treated on these principles. One patient coughed up a fishbone while being prepared by rest in bed, ice to the neck and morphin for tracheobronchoscopy, as the esophagoscopy had been fruitless.

55. **Tuberculosis Plus Pregnancy According to Experiences in a Mountain District.**—Burkhardt practices in Switzerland and his observation of 15 cases of pregnancy in tuberculous women has not confirmed the experience of others in regard to the deleterious influence of the state on the pulmonary affection. He found that the sojourn in the mountains induced a favorable turn in the tuberculosis, notwithstanding the existent pregnancy. Cases of progressive phthisis became arrested in the course of the pregnancy. Abortion had no curative action and in some cases proved directly injurious. Artificial abortion, therefore, should be restricted to cases of the most advanced phthisis or to those complicated by uncontrollable vomiting. During childbirth, the loss of blood and physical effort should be restricted to the minimum, possibly resorting to artificial delivery and using chloroform freely. The mother must refrain from nursing the child. The course of treatment in the mountain region should be continued for from four to six months after delivery, even in the mildest and most favorable cases, to forestall tardy disturbances. Infants thrive in the mountain climate. In classifying cases of tuberculosis he accepts Turban's classification as an advance, but still far from the ideal, as it does not afford a basis for prognosis. Besides the lung findings, the sputum, pulse, temperature, weight, height, general condition and heredity should all be considered in relation to the further course of the disease. He believes that a child may be born with congenital tuberculosis which, like syphilis, may remain latent for many years before showing signs of its presence. He urges others practicing in mountain districts to publish their experiences, and relates the details of about a dozen cases.

57. **Tuberculous Ear Affections in Infants.**—Haike is convinced that a tuberculous ear affection may develop in an infant and cause serious general disease without any noticeable local symptoms. Preysing found marked tuberculous lesions in the ear in only 2 out of 197 infant ears. The only other writers in the accessible literature who have discussed the subject are Schwabach, Rebbeling and Finkelstein. Haike has had occasion to observe 5 cases of tuberculous ear affections, the first symptoms noted from the fifth week to the seventh month of life, and which all terminated fatally in a few weeks or months, none surviving the ninth month. Four of the infants had phthisical mothers, and nothing was known of the mother of the fifth child. In every case the course of the affection could be traced from the mouth and throat through the tube into the ear—conclusive demonstration that the affection had been acquired by contact with the tuberculous mother. The evidence is all in favor of the assumption that the ear affection was primary, although some or all of the glands became involved later. Caseous degeneration was found in the mastoid process in every case. These findings teach the necessity for removal of infants from tuberculous environments.

Münchener medizinische Wochenschrift.

59 (LII. No. 21.) Agglutination of Paratyphoid Bacilli by Typhoid Serum.—Agglutinierende Wirkung des Serums von Typhuskranken auf Paratyphus-Bazillen, nebst Bemerkungen über makroskopische und mikroskopische Serodiagnostik. Korte and Steinberg.

60 Case of Probable Pernicious Anemia plus Leukemia.—Zur Leukanämiefrage. Kerschensteiner.

61 *Occupation in Therapeutics of Nervous Affections.—Bedeutung und Wert der Arbeitsbehandlung Nervenkranker. G. Geissler.

62 Adenoid Vegetations as Favoring Epidemic Cerebrospinal Meningitis.—Zur Verhütung der ep. Zerebrospinalmeningitis. O. Dornbluth.

63 *Sugar as Food for Diabetics.—Wurfelzucker als Nahrungsmittel für Diebetes. Oefele.

64 Self-Protection Against Venereal Disease.—Schutzmittel gegen Geschlechtskrankheiten. O. Grosse (Munich).

65 *Ueber eine neue lokale Behandlungsmethode des Furunkels und Karbunkels. A. Marcus.

66 *Protection for Vaccination Pustule.—Ueber Impfschutzverband. A. Groth.

67 Exhibitions of Hypnotism: Waking Suggestion.—Ist Wachsuggestion erlaubt? A. Riedel.

61. **Occupation in Treatment of Mental Affections.**—Geissler greets the introduction of systematic therapeutic occupation as an advance in the treatment of the mentally unsound. Its advantages are in the line of its psychic influence, but this is also its weak side, as so many fail to respond. It is, nevertheless, another valuable means at our disposal, and those who have introduced it should take courage, he says, and proceed to study further and to perfect the technic.

63. **Sugar as Food in Diabetes.**—Oefele has been cautiously testing the results of allowing loaf sugar to hundreds of his diabetic patients and tabulates the findings in a number of cases in which 35 gm. of sugar or more were taken daily. In 95 per cent. the glycosuria was improved; in 2.5 per cent. it remained stationary, and in 1.5 per cent. it increased. In 95

per cent. the improvement in the glycosuria was accompanied by great improvement in the general health and strength. This increased vigor after taking sugar harmonizes with the results observed in military circles. It is indispensable however, that the sugar must be taken apart from the albuminous meals, in water or coffee or the like, and that it should be followed by muscular exercise, accepting as an axiom, "No sugar without muscular exercise afterward, and no considerable muscular exercise without previous ingestion of sugar." He remarks, in conclusion, that ordinary sugar is better for diabetics than any kind of flour, as the starch of flour becomes transformed into diabetic sugar, while only half the molecule of saccharose produces dextrorotatory sugar.

65. **Electric Treatment of Furuncles and Carbuncles.**—Marcus suggests the empiric treatment of these lesions by allowing them to "ripen" possibly owes its efficacy to the local production or accumulation of antibodies. Unless there is some safe and certain means of destroying the cocci on the spot, this is the best way, he says, to treat a furuncle or a carbuncle. During the last year he has evolved a local treatment which, he says, has accomplished wonders in his hands. In the presuppuration stage he seeks for the most sensitive follicle and introduces a depilation needle connected with the negative pole of an electric current of 1 or 2 milliamperes. He then increases the current to 10 milliamperes, stirring the needle around to enlarge the hole. The nascent hydrogen pours out, bringing with it scraps of tissue and cocci. After from one to three minutes he removes the needle, cleans the parts, and reintroduces the needle as before, but connected with the positive pole of the current, increasing to 10 milliamperes as before. Ozone is then generated, which he calls the strongest disinfectant known, and the lesion is soon thoroughly disinfected. After two or three minutes the current is again reversed so that the hydrogen generated will again rinse out and wash away the débris. By this means the cocci are killed *in situ* and the further development of the furuncle is arrested. If pus has already formed it is mechanically removed as cautiously as possible to aid the above procedure, which is repeated twice a day. All pressure on the parts must be avoided, especially from the collar when the lesion is on the neck. It is remarkable how promptly and perfectly even large carbuncles heal under this electric treatment. Marcus has been applying this treatment for a year with increasing satisfaction.

66. **Vaccination Shields.**—Groth is convinced that many serious complications might be averted by using a simple covering for the pustule which can not get out of place like the ordinary shields. He uses a shield made of cotton, which fits over the arm and shoulder like a sleeve to the elbow, with a band from the top passing around the body under the other arm. He asserts that the state in enforcing compulsory vaccination should manage it so as to avert complications.

Therapie der Gegenwart, Berlin.

Last indexed page 361.

68 (XLVI, No. 3.) *Einwirkung von Salicyl-Präparaten auf die Nieren (action on kidneys). Quenstedt (Jena).
69 Die Technik der Stauungs-Hyperämie (aftificial passive congestion). R. Grunbaum.
70 Zur Behandlung der gonorrhoischen Erkrankungen. F. Kornfeld.
71 Results to date with Roentgen Treatment of Leukemia and Pseudo-Leukemia.—Kritisches Referat. De la Camp.
72 Allgemeine Grundsätze der Prophylaxe und Therapie der Magenkrankheiten (of stomach diseases). G. Klemperer.
73 Easy Reduction of Incarcerated Hernia and Ethyl Chlorid Spray and Vaselin.—Zur Repositionstechnik der eingeklemmten Hernien. H. Fischer.

68. **Action of Salicylates on Kidneys.**—Quenstedt's experience and research have shown that on administration of salicylic acid in the ordinary moderate doses signs of irritation appear after a short time and last as long as it is being taken. If salicylic treatment is suspended, these symptoms disappear after a time, but as soon as the drug is given again the signs of irritation reappear. The salicylic nephritis disappears quickly on suspension of the salicylic treatment, leaving no bad results, but when the salicylic acid is continued in small doses recovery is not complete. Loeb and Knecht arrive at somewhat different conclusions. They noted merely tokens of absolutely insignificant irritation from the salicylates. Knecht suggests that this difference may be due to differences in diet or to climatic causes. The appearance of signs of irritation after use of salicylic acid is observed, however, in various localities, so that it can be attributed only to the drug. It does not seem necessary to lose the benefits of salicylic medication on account of the slight nephritis noted after its use. Large doses should be given without hesitation if the severity of the case demands. All investigations show that salicylic acid leaves no permanent effects on the kidneys. In acute cases indicating the salicylates, they are indispensable, but in chronic cases they are of too little value to be continued very long.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By J. H. Raymond, A.M., M.D., Third Edition, Thoroughly Revised. 444 Illustrations, Some in Colors, and 4 Full-page Lithographic Plates. Cloth. Pp. 687. Price, $3.50 net. Philadelphia: W. B. Saunders & Co. 1905.

TREATMENT OF FRACTURES, with Notes on a Few Common Dislocations. By C. L. Scudder, M.D. Fifth Edition, Thoroughly Revised, with 739 Illustrations. Polished Buckram. Pp. 563. Price, $5.00 net. Philadelphia: W. B. Saunders & Co. 1905.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON, Centenary 1805-1905. Written at the request of the President and Council by N. Moore, M.D., F.R.C.P., and S. Paget, F.R.C.S. Cloth. Pp. 337. Aberdeen University Press, Limited 1905.

DISEASES OF THE KIDNEYS AND OF THE SPLEEN; HEMORRHAGIC DISEASE. By H. Senator and M. Litten, edited, with additions, by J. B. Herrick. Cloth. Pp. 915. Price, $5.00 net. Philadelphia: W. B. Saunders & Co. 1905.

TEXT-BOOK ON THE PRACTICE OF MEDICINE. For Students and Practitioners. By J. M. French, A.M., M.D., Second Revised Edition. 61 Illustrations. Cloth. Pp. 780. Price, $4.00 net. New York: William Wood & Co.

DIRECTORY OF INSTITUTIONS AND SOCIETIES DEALING WITH TUBERCULOSIS in the United States and Canada. By L. Brandt. Cloth. Pp. 270. Charity Organization Society of the City of New York. 1904.

DIETETICS FOR NURSES. By J. Friedenwald, M.D., and J. Ruhräh, M.D. Cloth. Pp. 363. Price, $1.50 net. Philadelphia: W. B. Saunders & Co. 1905.

New Patents.

Patents, recently granted, of interest to physicians:

792698 Fumigating candle, John F. Cunningham, Springfield, Mo.
792711 Artificial limb, Edward Koeber, Chicago.
793004 Eye-massage machine, Frank H. May, Birmingham, Ala.
792918 Tablet or pill-counting machine, Charles A. Ohlendorf and W. Brough, Baltimore.
792637 Electromedical appliance, Paul Wenigman, Chicago.
793351 Massage appliance, Herbert A. Church, Syracuse, N. Y.
793061 Mattress and accessories for invalids, Ada B. Dugan, Londonderry, Ireland.
793428 Ambulance cot or stretcher, George R. Edgley, Cincinnati.
793125 Physicians' adjustable chair, Victor A. Fagerstrom, Rockford, Ill.
793517 Sterilizer, John S. Forbes, Philadelphia.
793436 Earpiece or accoustic device, Peter C. Green, Philadelphia.
793582 Sterilizing cabinet, James A. Henning, Beardstown, Ill.
793527 Massage apparatus, Lorraine King, Knebworth, England.
793595 Folding display-box for suspensories, John E. Lee, Conshohocken, Pa.
793099 Syringe, Julius B. Sapp, Cleveland, Ohio.
793975 Plaster, Wm. H. Albach, Mount Gilead, Ohio.
794096 Syringe, Ella M. Gray, Des Moines, Iowa.
794033 Atomizer, Edward E. Menges, New Haven, Conn.
794387 Vaporizer, Edmund W. Ballentine, Chicago.
794160 Surgical appliance, Andrew Breslin and J. Lees, Summithill, Pa.
794161 Medical battery electrode, Kittie L. V. Curry, Chicago.
794233 Suppositorial bougie, Samuel L. Kistler, Los Angeles, Cal.
794641 Inhaler, Alfred H. Ramey, Aurora, Ill.
794256 Device for relief of club or flat feet, Wm. M. Scholl, Chicago.
794208 Electrothermal bath apparatus, Frank W. Weeks, San Antonio, Texas.
794771 Formaldehyde candle, Aleck Bauer and B. K. Hollister, Chicago.
794918 Pneumatic ophthalmic chart-cabinet, Louis O. Bisang, San Francisco.
794782 Stopper-holder for water bags, Albert C. Coe, Orange, Conn.
794788 Shield and support for *x*-ray tubes, Levitt E. Custer, Dayton, and D. H. Allen, Miamisburg, Ohio.
795212 Massage apparatus, George W. Fitz, Boston.
795213 Massage apparatus, George W. Fitz, Boston.
794707 Mercury pump, Stanwood E. Flichtner, Englewood, N. J.
794978 Invalids' bed, Ernest A. Hall, Vancouver, Canada.
795130 Truss, John J. Horn, Philadelphia.
795056 Injector for medical or like purposes, Selly Noah, Nuremburg, Germany.
794962 Massaging implement, Harry F. Waite, New York.
794996 Medicine receptacle, Robert B. Mimmack, Rochester, N. Y.